THE AUK:

A QUARTERLY JOURNAL OF ORNITHOLOGY.

VOL. I. OCTOBER, 1884. No. 4.

THE CANADA GOOSE (*BERNICLA CANADENSIS.*)

BY JAMES P. HOWLEY.

ONE of the chief game birds of Newfoundland is the Canadian Goose (*Bernicla canadensis*). When I term it a game bird I might state that owing to the peculiarity of its habits, or perhaps to the physical character of this country, few Wild Geese fall to the gun of our sportsmen proper, who confine themselves chiefly to Grouse hunting, and the shooting of smaller game. The labor and difficulty of access to the true breeding grounds of the Wild Goose, in the far interior, effectually protects it, and it is only during the spring and fall migrations that any appreciable number are killed.

This Goose is a regular annual visitant to Newfoundland, coming along from the southward in the early spring, arriving here in the month of April, remaining during the breeding season, and again taking its departure about the latter half of October. They breed abundantly on this island, depositing their eggs in very simply constructed nests, of dried leaves and grass, on the islets in the bog holes or tarns, which so plentifully dot the large peat savannas prevailing over considerable areas of the interior. They generally select localities for the purpose of incubation not far removed from the margin of some of the numerous

streams and brooks which intersect the island in all directions, and have their outlet in various arms and inlets which indent the shores of our island on every side. To these latter they invariably conduct their young broods as soon as they become strong enough on the wing, and for some time prior to taking their departure they frequent these fiords, where an abundant supply of food is obtainable. A long, slender, reed-like grass, which grows most luxuriantly in the shallow, brackish waters, known as goose grass, is the especial attraction in these places.

Not having had the good luck to have ever actually seen a Wild Goose's nest myself, I am unable to say positively how many eggs they lay, but judging from the numerous broods of young goslings I have time and again come across, I should say they rarely exceed half a dozen. The eggs are white, somewhat smaller than those of the tame Goose, and more elongated in form.

At this point I would venture to correct a mistake made in a very interesting and instructive work entitled 'Game Birds of the United States,' by Thomas Alexander, author of 'Fish and Fishing,' published in the United States in 1879. Writing of the Canada Goose, Mr. Alexander says: "He comes up from the south with the earliest spring, bravely making the longest known migrations in search of a breeding place. How far north he goes before his particular taste in this matter is satisfied is unknown, *for no mortal eye has yet gazed upon the breeding places of the Canada Goose.*" This is an egregious error, as any one in this country having the remotest knowledge of its wild-fowl can easily demonstrate.

The Canadian Goose undoubtedly does find its way to more northern regions, even perhaps beyond the limits reached by the most famous Arctic explorers, and perhaps has solved the problem that has baffled and defied generations of the hardiest navigators, but I opine the summer season within the Arctic Circle is of scarcely sufficient duration for the incubatory purposes of birds which require six months to mature.

No matter what high latitudes the Canada Goose may have been observed in, it is well known to breed here every summer. It is quite a common practice with the fishermen in the outlying settlements to make expeditions into the country in spring, in search of the young broods of Geese, which they frequently capture and bring out before they are able to effect their escape.

The eggs also are frequently taken away, and afterwards placed under a tame Goose to be hatched. The young so captured are easily domesticated, becoming exceedingly tame, and presenting in this respect a great contrast to the same bird in its wild state. When reared they are sold to amatuer poultry fanciers in the Capital and elsewhere, where good prices are realized for them. At any season of the year, even now in mid-winter, numbers of these domesticated Wild Geese may be seen in the poultry yards about St. John's. They breed in their captivity both *inter se* and with the common domestic Goose, producing a hybrid bird much esteemed for the table.

While all other birds are protected here by a strict game law, which establishes a close time and heavy penalty for its infraction, Geese alone are excepted, simply not to interfere with the small source of emolument derived by the fisherman from the capture of the young birds and eggs, as I have described. It is considered that the migratory and wary character of the bird prevents any appreciable injury resulting from this course. Still, the morality of legalizing such an interference with any animals valuable to man, during their procreative period, is, to say the least of it, very questionable.

During the breeding season they moult the primary wing- and tail-feathers, and are consequently unable to fly in the months of June, July, and the early part of August. They keep very close during this moulting season, and are rarely seen by day; yet I have frequently come across them at such times in the far interior, and on many occasions have caught them alive. When surprised on some lone lake or river side, they betake themselves at once to the land, and run very swiftly into the bush or tall grass to hide. But they appear somewhat stupid, and if they can succeed in getting their heads out of sight under a stone or stump, imagine they are quite safe from observation. When overtaken in the water, and hard pressed, they will dive readily, remaining a considerable time beneath, swimming or running on the bottom very fast. About the 15th of August the old birds, and most of the young ones, are capable of flight, and from thence to the first of September they rapidly gain strength of wing. Soon after this they betake themselves to the seaside, congregating in large flocks in the shallow estuaries or deep fiords, to feed during the night-time, but are off again to the barrens at earliest dawn, where

they are generally to be found in daytime. Here they feed on the wild berries, of which the common blueberry, partridge berry, marsh berry, and a small black berry (*Empetrum nigrum*) afford them an abundant supply. They are exceedingly wary at this season, and there is no approaching them at all on the barrens. The only means of getting a shot at them, and that usually adopted by the fishermen, is to erect a kind of blind, termed a *gaze*, near the margins of the estuaries or lagoons most frequented by the birds, and within easy range of their favorite resting places. The gaze is formed of a rough, semi-circular framework of bush and small trees, inside of which a couple of persons may lie concealed. This contrivance must be constructed prior to the time when the birds are expected to arrive, so that they may see and become familiar with it, otherwise, such is their suspicious nature, they would leave the place altogether, or at least avoid the immediate neighborhood of the gaze, keeping well out of shot. If unsuspicious of danger they will swim about in close phalanx, and when within easy range, the concealed hunters pour heavy charges of large shot from their huge sealing-guns into them, and frequently do great execution. The long and patient watch during a cold October night, however, takes away much of the pleasurable element from this rather unsportsmanlike mode of hunting, and as a consequence few resort to it except the hardy fisherman and patient Indian, to whom the killing of a few couples of Geese means a good night's work. I have myself frequently tried to steal a march upon the Geese during a dark night in a canoe, but never succeeded in getting within shot.

During the spring migration a nearly similar plan is adopted by the fishermen to that described above, the only difference being that the gaze is erected on the ice, near open water, in our bays and fiords, the gaze itself being built of blocks of ice and snow. When the Geese alight in these open places during the night, they will swim along by the edge of the ice, picking the goose grass which may be washed up against it, quite unsuspicious of danger till they are suddenly fired upon from the ice gaze. A great number are sometimes killed in this way.

I am credibly informed that many of these first arrivals, when opened, have been found to contain undigested grains of Indian corn. This circumstance I think argues strongly in favor of the

very rapid flight of the bird northward; the grain, I presume, being picked up either in the southern or midland States of the American Union. They are a very powerful bird on the wing. Rising at first slowly from the water, they fly rather low for a time, but soon ascend, and, forming a hollow wedge or V, with an old gander at the apex, continue for long distances before again alighting. About the last of October they are generally all gone, but I have heard of stragglers being seen even in mid-winter.

BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(*Concluded from p. 278.*)

184. **Charadrius virginicus** *Borkh.* CHORLO (PLOVER).—Seen only in the neighborhood of Bahia Blanca and the Sierra de la Ventana from February 8 to March 19. During most of this time it was abundant in flocks of twenty to two hundred individuals, and for the first week or two all the larger flocks were moving pretty uniformly in a south or southwesterly direction; a fact which I could account for only by supposing that the plains of Patagonia must offer some strong attraction in the way of food at this season.

185. **Eudromias modesta** (*Licht.*). CHORLITO (LITTLE PLOVER).—Taken but twice at Concepcion, viz., April 29, and May 6, 1880; while a few specimens, either of this or the following species, were observed on the pampas during March and April, 1881.

186. **Ægialitis falklandica** (*Lath.*).—One specimen, Concepcion, April 30, 1880, and the doubtful observations mentioned under the preceding species.

187. **Ægialitis collaris** (*Vieill.*). CHORLITO (LITTLE PLOVER).—Rather abundant at Concepcion in March and August, in small flocks all over the open country. Probably a few winter there.

188. **Himantopus nigricollis** *Vieill.* ZANCUDO (LONG-LEGS).—Abundant at Concepcion only from March until August, though a few linger later. At Azul, January 31, 1881, it was quite plenty in small flocks, and at Puan, March 28, 1881, a pair or two were seen. Where it breeds I do not know.

189. **Gallinago paraguaiæ** (*Vieill.*). BECASINO (SNIPE?). —Extremely plenty at Concepcion during cold weather; less so in summer, but many remain to breed. A set of three eggs was taken September 16, 1880, and two eggs from another nest on October 12. Both nests were slight hollows in the ground, with a few bits of straw and grass for lining. The eggs are as much like those of *G. wilsoni* as are the birds themselves; that is to say, very similar indeed. During the winter the Snipe collected in some of the marshes to the number of thousands, and often twenty or thirty would rise at the report of the gun and circle about in a loose flock before settling again. They were abundant at Carhué early in April.

190. **Rhynchæa semicollaris** (*Vieill.*).—This peculiar bird, combining characters of both Snipe and Rail, is an abundant resident at Concepcion where it breeds.

On September 18, 1880, I found two sets of two eggs each, laid without any attempt at a nest on the bare ground close to the edge of a marsh. The eggs, which were much incubated, were of nearly the same size at both ends and resembled quite closely, both in shape and coloration, the eggs of our common Nighthawk (*Chordiles virginianus*), the ground color being almost obscured by a profusion of heavy dots and blotches of dark brown and black. The sitting birds flew directly from the eggs without any attempt to lead away from them. I usually found these birds abundant in the same meadows with the Snipe, often flushing both at the same time.

191. **Tringa fuscicollis** *Vieill.* MBATITUÍ (Indian name). —In small squads or large flocks at the same times and places as the following species.

192. **Tringa maculata** (*Vieill.*) MBATITÚ (Indian name). —Common in flocks at Concepcion through the larger part of the year, only absenting itself from the middle of November to the middle of January, and even then a few may usually be found. They are almost always in company with the preceding species, often forming flocks of several hundred individuals. Where

they go in the summer I do not know, but they were abundant at Carhué and neighboring places in March and April.

193. **Totanus melanoleucus** (*Gm.*). CHORLO (PLOVER).—Occurs sparingly at Concepcion every month in the year, but in increased numbers during August, September, October and November.

Birds taken during August and September were for the most part in worn plumage and quite thin; those taken at other times seemed to be in much better condition; but I never found any which showed evidence of any nearness to the breeding season. I believe that part of these are birds bred in North America, and the rest are natives of the southern pampas of Patagonia. They were abundant at Azul, January 25 to 31; at Bahia Blanca one was seen on February 8; I heard them at Puan March 28, and they were numerous at Carhué the first week in April.

194. **Totanus flavipes** (*Gm.*).—Usually noted with the preceding, but none were seen at Concepcion during May, June, and July, 1880. At Azul they were quite plenty January 28, 1881.

195. **Rhyacophilus solitarius** (*Wils.*).—In parties of two to six at Concepcion during August, September, and October. First seen there August 20, 1880. I saw a few between Buenos Aires and Azul on January 25, 1881.

196. **Actiturus bartramius** (*Wils.*).—A common bird everywhere from November to April. Especially abundant about the vast swarms of 'locusts' which were sweeping the country in 1879 and 1880. During December, 1880, I frequently saw thousands of the birds in the compass of a very few acres. They were all in rather poor plumage, but many of them quite fat. In habits they were precisely like the same birds here, except that I several times saw single birds balancing themselves for a few seconds on the tops of bushes, which I do not remember noting before. That this species regularly ranges from the United States to the pampas I no longer have any doubt. The same may be said of the last three species mentioned and the one following, with this single difference, that while I am pretty well satisfied that some individuals of *Totanus melanoleucus* breed on the pampas or in Patagonia, I found no evidence that any of the other species mentioned do so. They seem to be simply visitors from the northern hemisphere, spending the time between breeding

seasons in a country which affords them a congenial climate and an abundance of food. For a discussion of this matter from a sportsman's point of view the reader is referred to an article by W. Hapgood in 'Forest and Stream,' Vol. XVII, Oct. 20, 1881.

197. **Numenius borealis** (*Forst.*). — First seen at Concepcion, September 9, 1880, in large flocks. After the middle of October none were seen there, but after leaving Azul for Bahia Blanca it was seen almost daily on the pampas in company with the Golden Plover and Bartram's Sandpiper until late in February. After March 1 none were met with.

198. **Sterna superciliaris** *Vieill.* — A single female was taken at Concepcion, October 14, 1880.

199. **Sterna magnirostris** (*Licht.*). GAVIOTITA (LITTLE GULL).— A pair seen, and female taken, at Concepcion, September 9, 1880. They were following up a small sandy stream hunting like Kingfishers.

200. **Larus dominicanus** (?) *Licht.* GAVIOTA GRANDE (BIG GULL).— A Gull about the size of our Herring Gull (*L. argentatus*) was abundant on the pampas during February 1881, and probably it was the same species which frequented the salt 'lagunas' at Puan and Carhué during March and April. As no specimens were secured I refer it to *dominicanus* with some hesitation.

201. **Larus cirrhocephalus** *Vieill.* GAVIOTA (GULL). —Apparently resident at Buenos Aires, but only common at Concepcion in winter. During May, June, and July, however, it was common in immense flocks, wheeling about the *saladeros*, or slaughter houses, alighting anywhere to pick up food, and usually gathering in great companies at midday to sit preening their feathers and gossiping for an hour or two in the sun on some grassy spot well back from the river.

NOTE.— No attempt is made to enumerate here the various species of Gulls, Petrels, Shearwaters, etc., which abound in the winter months at the mouth of the river, but which I had no opportunity of collecting or studying.

202. **Æchmophorus major** (*Bodd.*).— Not uncommon at Concepcion during cool weather, both on the river and on smaller streams. My dates range from March 25 to September 26. One, which I shot on June 29, had only long, fine, water-grass in the stomach, not even the smell of fish.

A few birds of this species were seen in the salt lakelet of Puan March 27, 1881. In many places they are much hunted for the skins, which form quite an article of commerce at Buenos Aires.

203. **Podiceps rollandi** *Q. et G.*—First met with on the Napostá Chico, Feb. 23, 1881. This is a small stream rising in the Sierra de la Ventana and vanishing in the sand after a course of fifteen or twenty miles. It contains but one species of fish, a small 'chub,' which is also abundant in most of the ponds of the country. Many of the pools of this stream have a depth of twenty to thirty feet, and, lying between perpendicular banks of twice that height, were not easily accessible. Here several of these beautiful Grebes swam in perfect safety; and we met with them again in similar places on the Pigué and Sauce Chico. A few were seen at Carhué in April.

204. **Rhynchotus rufescens** (*Temm.*). PERDIZ GRANDE (BIG PARTRIDGE).—Also called *Martinete*, as is also the crested Tinamou (*Calodromas elegans*), which is found further south. The present species is a rather common resident at Concepcion, where is breeds. It frequents long grass and dense growths of creeping vines and brambles, but avoids equally the open grazing grounds and the wooded stretches. It runs with surprising speed, and is very difficult to flush without a dog, but once started flies straight and strong. But, as has been repeatedly noticed by Hudson and others, its second flight is much feebler, and if forced to rise for the third time it soon drops and can then be easily caught by a dog. Its ordinary call consists of four or five mellow notes closely resembling the call of the Baltimore Oriole, and for months I failed to attribute it to its true source. The eggs, four in number, are always laid on the ground in a rude nest of grasses, etc. They are about the size of a hen's egg, of a beautiful, purplish-chocolate color, and with a polish not met with outside this family.

It would be difficult to find an egg which could compare in beauty with those laid by this bird. The species was more or less plenty at all points on the pampas. Its flesh is not particularly good, but is a vast impovement on the dry, tasteless flesh of the following species, which, nevertheless, is highly prized because it is white!

205. **Nothura maculosa** (*Temm.*). PERDIZ (PARTRIDGE).—This tail-less little bird, hardly bigger than *Ortyx virginianus*,

is an abundant resident all over the Argentine Republic. The only wonder is that it continues to be so abundant, for it is easily snared in many ways, and is hunted in every possible manner, while, according to the best evidence at hand, it rarely lays more than four eggs in one nest, and only raises one brood in the season. This is emphatically a bird of the fields and pastures, and usually avoids the long grass and the weedy low grounds. It prefers to run rather than fly, but is a strong bird on the wing, and practically tireless.

The eggs are miniatures of those of the preceding species, and are laid in make-shift nests on the ground from October to December. Near Bahia Blanca I found a nest containing fresh eggs on the 10th of February, but this must have been an unusual case, and probably due to accident.

206. **Calodromas elegans** (*d'Orb. et Is. Geoffr.*). MARTINETE. (A term applied in Spain to a Heron or its plume. Here it undoubtedly refers to the long feathers of the crest.)—Unlike the species just described, this one is always found in small parties, and usually running in single file. In the neighborhood of Bahia Blanca it was not uncommon, but it was not elsewhere met with, being confined pretty rigidly to the shrubby country bordering the pampas on the south and west. The eggs are polished, but of a greenish tint, and are said to be commonly five or six in number. The flesh is fairly palatable.

207. **Rhea americana** *Lath.* AVESTRUZ (OSTRICH).—Abundant only where protected, then multiplying rapidly. About Concepcion it is semi-domesticated, but of little importance, as its feathers are fit only for dusters or rugs, and the best grades bring only about two dollars per pound.

At Concepcion a well-feathered old male will yield about two and one-half pounds of feathers if killed for them alone.

At Puan, where the Indians live mostly on mare's meat and Rheas, I was told that a first class Ostrich yielded from three to four pounds of feathers of the average value of ninety cents per pound. During our stay at this wind-swept and desolate place about two hundred Indians united in a two-day's Ostrich-hunt, resulting in the capture of about sixty birds of all sizes from the full grown adult down to two-month 'chicks.' They begin by beating over a large tract of the plain and then closing in around the game started. Stout greyhounds are used to good purpose,

usually pulling down the swiftest birds within two miles at farthest. The Indians use the *bolas* with much skill, the one used for Ostriches consisting of two half-pound leaden balls connected by eight feet of twisted rawhide twine. Whirling this about the head and 'letting fly' at the running bird they often entangle his legs at a distance of thirty to fifty yards, and I was *told* that it was frequently done at one hundred.

Single hunters stalk Ostriches sometimes in the following way: Getting to windward of the bird the latter soon scents him and lies down, only sticking up his head above the grass. The hunter may then creep directly up within shot if the grass be long enough to shelter him, and the bird is shot through neck or head before he rises. So many stories have been told of the breeding habits of these birds that I could probably add nothing of value myself, so I append the following, which was told me by a young man who was born and brought up among Ostriches. When an Ostrich has built a nest and laid the full number of eggs, she is naturally anxious to be able to find the nest again after having wandered away to any distance. This she manages by simply laying eggs at intervals of half-a-mile or so over the adjacent country, placing each egg with its smaller end pointing directly toward the nest!

Before closing this paper I wish to return my grateful acknowledgements to Mr. J. A. Allen and to Dr. Hermann Burmeister of Buenos Aires, for the determination of most of the species herein described, and for much invaluable assistance of every kind. My thanks are also due to Mr. Geo. N. Lawrence for similar services. I take this opportunity also of returning thanks to Dr. P. G. Lorentz of Concepcion for indispensable aid in the collection of notes and specimens from the pampas, and to Professors Seekamp, Alió, and Dr. Quesada, of the Colégio Nacional at Concepcion, for many specimens and much information on the species of that region.

MIDDLETOWN, CONN.,
MAY, 1884.

ON SOME NEW TERMS RECOMMENDED FOR USE IN ZOOLOGICAL NOMENCLATURE.

BY PROFESSOR COUES.

I HAVE certain new terms to define and recommend for use in zoölogy — some, as desirable substitutes for inelegant or inept words now employed; others, as convenient names for ideas or things not now expressed except in paraphrase. I refer to the word ONYM and its compounds and derivatives. Onym is simply anglicized from ὄνυμα, *nomen*, 'name.'

Zoölogists constantly speak of the 'binomial' nomenclature, or 'binomial' system of naming. A name of two terms is called a 'binomial'. An object so named is 'binomially' entitled. The agent in such cases is a 'binomialist.' The principle involved is 'binomialism,' or 'binomiality'. And so on. Extension of this practise has led us to commit the verbal bastardy of 'mononomial' and 'polynomial,' in speaking of names consisting respectively of one or several terms, or in speaking of a system of nomenclature in which objects are designated by one or several terms. Then we also have 'polynomialist', etc.

The objections to 'binomial', etc., are several. It does not fairly and fully express what we mean. It does not readily yield an eligible noun and verb. It does not easily enter into several desirable compound words of collateral signification. It is curiously related to, and generally confounded with, a different word, 'binominal.' It is preoccupied, so to speak, in algebra, in which science it has a special and appropriate signification.

Perceiving sundry objections to 'binomial', some have sought to obviate them by using 'binominal', 'uninominal', 'plurinominal', etc. But such terms are also ineligible, on several counts. Like 'binomial', they do not readily yield collateral words, especially the desired noun and verb. Secondly, the tautology of 'binominal name', for instance, is evident. Thirdly and chiefly, 'nominal' and its derivatives have acquired in English a special meaning, as the opposites of 'real' and its derivatives. Thus, a 'nominal' species is the opposite of a 'real' or true species; it is, in short, a figment; and though we do say, for instance, a 'nominal list of species', meaning a list consisting only of the names

of species, it is unlikely that 'nominal' and its derivatives will be much used in their proper etymological sense, they being too closely wedded to the idea of unreality.

So we still need some words to express our thoughts clearly in speaking of our systems of zoölogical nomenclature in the abstract, and of their operation and effect in the concrete. But we have not far to seek. The word *onym* supplies the desiderata of brevity in writing, euphony in speaking, plastic aptitude for combinations, and exactitude of signification. That it well answers the purpose, and is already anglicized in several compounds, is seen in the words *synonym*, *pseudonym*, and their many derivatives. I would therefore suggest and recommend as follows:—

Onym, *n.* The tenable technical name of a species or other group in zoölogy, consisting of one or more terms applied conformably with some recognized system of nomenclature.

Onymy, *n.* The doctrine or practise of using onyms; nomenclature, in a proper sense.

Onymize, *v. i.* To make use of onyms; to employ a proper nomenclature; to invent or adopt tenable technical names in zoölogy.

Onymizer, *n.* One who, or that which onymizes; a nomenclator, in a proper sense.

Onymal, *adj.* Of or pertaining to an onym, or to onymy.

Onymally, *adv.* In an onymal manner.

Mononym, *n.* An onym consisting of a single term.

Dionym, *n.* An onym consisting of two terms.

Trionym, *n.* An onym consisting of three terms.

Polyonym, *n.* An onym consisting of more than three terms.

Anonym, *n.* A mere name; a 'nomen nudum'; a name resting upon no diagnosis, or other recognized basis.

Chironym, *n.* A manuscript name; an unpublished name.

Graphonym, *n.* An onym based upon a recognizable published plate, diagnosis or description.

Typonym, *n.* A name based upon indication of a type species, or of a type specimen.

Pseudonym, *n.* (In a special zoölogical sense.) A nickname; a vernacular name, inadmissible in onymy.

Synonym, **Homonym**, and their dirivatives, to be used in their current zoölogical senses. Other combinations and derivatives of onym might be suggested, but the above examples will suffice.

S. S. OREGON, MID-OCEAN,
MAY 27th, 1884.

A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

(*Continued from p. 218.*)

Vireo flavifrons. YELLOW-THROATED VIREO.

THIS Vireo sings through July, August, and the early days of September. Records of song in some years are not closely consecutive during the middle weeks of July, and again towards the end of August; but usually occasional songs prevent any significant break in the record. If, however, the summer be exceedingly hot and dry singing may be suspended for weeks at a time.

Almost every year a few songs are to be heard in September, a week or two after singing has apparently ceased. In 1878 singing continued with some regularity until September 7, after which songs from single birds on the 12th and 18th were the last; in 1880 nothing was heard of the species between August 29 and September 12—on the latter date, as well as on the 17th and 18th, full songs being heard; in 1881, September 6 and 19 limit a hiatus in the record, though on the latter date, as well as on the 24th—my latest record—songs loud and full were heard. Mr. Brewster has observed somewhat similar habits of late song with this species at Cambridge, his latest record being September 11.

This is the only one of our Vireos which I have observed to sing while on the wing. On May 21, 1882, I observed a pair flying about among an open group of trees; one was being followed by the other: but their motions betrayed none of the excitement of pursuer and pursued: their flight was so easy and

leisurely that it was almost restful to watch them. For more than a minute they continued slowly circling about among the trees, within a space of a few rods, passing in and out among the branches; several times the leading bird appeared about to alight, but feeling its pursuer close at hand continued its course. The rear bird was constantly giving utterance to its full song-notes, which fact probably accounts for its uninterested manner as pursuer; for it seemed so engrossed with the feat of singing during flight that it could give little heed to the chase. Both birds finally alighted peaceably among the branches, the follower alighting first.

Vireo solitarius. BLUE-HEADED VIREO.

This is one of the few migrants which are regularly in song while passing in the fall. Their characteristic, yet Virionine song is usually the first indication of their appearance, and the last of their presence with us. Its greatest range in time, in different years, is from September 18 to October 9. This Vireo also sings while passing northward in the spring.

Vireo noveboracensis. WHITE-EYED VIREO.

There appears to be no regular period of silence with this Vireo, which is more or less given to vocalism through its entire stay. In July and August, however, there seems to be a time of minimum vocal vigor, when singing is intermittent, and sometimes appears to cease briefly altogether; but there is no constant rule, the birds appearing to be much influenced by varying external causes. A severe drought, as with other species, is unfavorable to song, and during the exceptional aridity of the summer of 1881 singing seemed, at intervals, to be wholly discontinued. In September, or by late August, the normal vocal vigor is regained; and sometimes singing becomes very general late in September, shortly before its discontinuance with us, which dates from the 22d to the 30th, and is due to the departure of the bird.

This Vireo possesses greater powers of song than are generally accorded it. Perhaps its want of recognition as a vocalist is because it does not reveal its fullest capabilities in the spring when birds are expected to do their best. All through the spring and early summer we hear in low bushy places and on shrubby

hillsides its brief and emphatic song, and though this has at least two distinct changes, greater variation is not often attempted. But it has another song which is almost wholly confined to the season of late summer and autumn. This is less vehement than the song of the earlier season, but more prolonged and of greater compass. It is a voluble and confused outpouring of singularly involved and varied notes, showing considerable power of mimicry, and of indefinite continuance. Some approach to this song is often noticeable in the ordinary songs of mid-summer, and sometimes it is actually produced early in July; but oftener it is delayed until August. In September it is frequent, and commonly is among the last songs heard. On a few occasions I have heard it in May and June, but these cases were wholly exceptional. In the autumn a change of habits is noticeable on the part of those individuals who have acquired the later song in its full complexity. No longer are these restricted to their earlier haunts amid hillside shrubbery and swampy undergrowth, which still harbor their less enterprising companions, but they are often to be found singing with full vigor amid the branches of tall trees, in the open, about the borders of woods, or even in cultivated grounds close about habitations.

On one occasion—July 28, 1878—I listened to a White-eyed Vireo rehearsing its common song with a rapidity that left no pause in its utterance. In its precipitate expression it soon lost control of the regular repetition of its strain, and the notes becoming sadly mixed, it desisted in confusion. It actually seemed as if it were experimenting to see how many separate songs could be thrown off in a given time.

Lanius borealis. GREAT NORTHERN SHRIKE.

While it is with us on its irregular and fleeting visits, this winter species does not often essay a greater vocal effort than a harsh note or scream. On occasions, however, it does actually sing; though probably never with its fullest power in this latitude. I have heard a variety of notes from it in October, on its first arrival, and in November; but its highest vocal achievement is in late winter and early spring. Its song may be one of the first that the spring can claim; for that indefinable change that comes into the atmosphere and the sunlight on some days of late

winter and leads us to look springward, seems to be as quickly felt by this hardened and cruel bird as by the most tender species which it is wont to make its victims. An unusually vocal bird was observed on February 10, 1877—a morning when winter seemed quietly relaxing from long-continued severity. Perched in the sunlight, on the topmost spray of a tall oak, on an eminence commanding an expanse of changing landscape, it was alternately singing and preening its beautiful plumage. The song was a medley of varied and rather disconnected articulations, an occasional low warble always being quickly extinguished by harsh notes, even as the bird's gentle demeanor would soon be interrupted by some deed of cruelty.

It has been claimed that the Butcher Bird attracts birds and small animals by imitating their cries, thus making them its easy prey. It is true that notes similar to the screaming of small birds and the squealing of mice are interspersed through its song; but they are uttered without method, and sometimes actually in conjunction with the most harsh and startling sounds of which the bird is capable.

Hirundo erythrogastra. BARN SWALLOW.

An almost universal misconception regards the Swallows as a tribe of songless birds. But the Barn Swallow has as true claims to song as many species of long-established recognition as song-birds. Its song is a low chattering trill, suggestive of that of the Long-billed Marsh Wren, but often terminating with a clear, liquid note with an accent as of interrogation, not unlike one of the notes of the Canary. This song is wholly distinct from the quick, double-syllabled note which so constantly escapes the bird during flight; nor is it, as may be supposed, produced by the commingling of the notes of many individuals in a species highly gregarious. I have heard it repeated many times from single birds, often when they were perched alone on telegraph wires. It is also uttered during flight, and continues into August.

Hirundo bicolor. WHITE-BELLIED SWALLOW.

The song of this Swallow is hardly more than a chatter. This is to be heard as late in the year as the bird is with us. Its ordinary notes are less sharp and rapid than those of the Barn Swallow.

Pyranga rubra. SCARLET TANAGER.

With this brilliant bird, singing is continuous from the season of blossoms into mid-summer. After this time it is less constant and when August is well advanced is not longer heard. But during the last month of song the regularity of singing varies in different years. A record of each day when the song is heard will in some years be scarcely interrupted until the second week of August; in others it will show but a disconnected series of dates after mid-July. After early August singing is always uncertain, although straggling songs may extend the date of final cessation beyond the middle of the month. Conclusive songs occur at any time in the month up to the 20th. After the breeding season an abbreviation of the song, with some loss of emphasis, is noticeable, which usually has become more marked at the time of discontinuance.

Contrary to what is true of the Robin and some other birds, cool, wet weather seems to discourage singing with this species, and often on those sultry summer mornings which betoken the hottest days its song in full richness may be heard, though most of the other birds be silenced.

In October, toward the end of its stay, its only note is a single sharp *chip*, which, though an insignificant sound, when once known cannot be mistaken for the note of any other bird. Its ordinary call-note is likewise very distinctive. It is not often used after the close of summer, although I have heard it late in September. Speaking of this well know *chip-chir*, Mr. Fred. T. Jencks, of Providence, R. I., has called my attention to what is undoubtedly a clear instance of geographical variation in utterance. Mr. Jencks writes that he has observed that in "Illinois and Indiana it has three notes, *chip-chir-ree*."

Changing from its spring and summer scarlet to autumn green, this bird goes curiously counter to the order of color change from spring to fall, which nature has adopted on so large a scale for our landscapes. The Scarlet Tanager undergoes its change in August, and early in the month may be found with its red plumage variously invaded by the conquering yellowish and green. I have found the male in externally perfect fall dress by mid-September; but feather growth continues into October, when the bird becomes excessively fat.

Pinicola enucleator. PINE GROSBEAK.

Loxia curvirostra americana. RED CROSSBILL.

In the spring of 1875 — a late spring, following a severe winter — both of these hardy birds so far relented from their usual reticence while away from their northern homes as to allow us to hear them sing. Of this, I have already written as follows: "....as the winter waned the birds became none the less common, and in the mild mornings of early spring-time this species [the Crossbill], as well as *Pinicola enucleator*, would often be found in full song, frequently on the same tree. As I now recall them, the song of the Grosbeak was a subdued rambling warble interrupted with whistling notes; that of the Crossbill bolder and more pronounced as a song."* It the context, wherein is described a nest and three eggs of the Crossbill, taken at Riverdale, on April 30, 1875, the species is alluded to as having remained up to that time in full song.

Since that season I have met with flocks of Crossbills here in April, May, June, and July, but except an occasional low twittering in May, 1884, their usual nervous chatter was their only utterance.

As for the Pine Grosbeaks, they too remained late the present year — through March — and showed some disposition to sing. Low warbling notes were heard from them in February, at Sing-Sing, by Dr. A. K. Fisher, and also at Riverdale.

Carpodacus purpureus. PURPLE FINCH.

There is much irregularity in the occurrence with us of the Purple Finch, particularly in the winter season. In some winters it is constantly present in numbers; in others it is absent. From this arises an irregularity in the time of the beginning of spring song. When the bird has been common through the winter its song is to be heard usually much earlier in the spring than when it is brought by migrants. The time of arrival of the spring migrants is also variable, and their songs are first heard sometime between the fourth week of March and the corresponding week

* Bull. N. O. C., Vol. V, No. 1, p. 8. January, 1880.

of April. The latest date that I have record of for the beginning of spring song is April 23.

Purple Finches were present through the winter of 1877-78, and the exceptionally early spring which followed enticed them into song as early as the 3d of March. This is my earliest record for the actual beginning of song. Impatient birds sometimes try their pipes on bright days of mid-winter, but, so far as I have observed, always with poor results. When once regularly begun, singing continues until about the middle of July — 2d to 20th.

In the autumn the song is weak and desultory, although I have occasionally at that season heard a near approach to the full song of spring. Singing is also somewhat uncertain in the fall, and though in some seasons quite general with the species, in others it is not heard at all. Dates for song are down in my books from September 22 to October 31.

I have elsewhere (Trans. Linnæan Society of New York, Vol. I, pp. 43-44) referred to the song of the Purple Finch in the Catskill Mountains in connection with its song in the Hudson Valley, and alluded to variations to which it is subject.

Chrysomitris pinus. PINE LINNET.

In his record of the nesting at Sing-Sing, N. Y., in 1883, of the Pine Linnet (Bull. N. O. C., Vol. VIII, No. 3, p. 180, July, 1883), Dr. A. K. Fisher has told us that the bird was in full song after May 8. The species undoubtedly nested at Riverdale the same season, although no nest was discovered, and in early May it was often heard in song. This year they are again with us, and singing at the end of March. Their best efforts issue in a confusion of somewhat hard and hurried notes, tending to degenerate into a chatter.

Mr. Jonathan Dwight, Jr., has favored me with some interesting personal observations on this species, showing that in the spring of 1883, when it bred in the Hudson Valley, it was also common on parts of Long Island. At Rockaway, and at Cypress Hills Cemetery, Mr. Dwight saw them and heard them singing at different times between March 15 and May 2. He speaks of their song as a "soliloquizing gabble, interspersed with a prolonged wheeze — a prolongation of their usual note while flying." This hoarse note sometimes sounds much like a common note of

the English House Sparrow. Before it was familiar to me it was with no little surprise that I heard at Big Moose Lake, deep in the Adirondack Wilderness, a bird-note so suggestive of city streets.

Astragalinus tristis. AMERICAN GOLDFINCH.

A wide variation in the time of the beginning of song with this species in different years is doubtless attributable to the same causes that produce like results in the case of the Purple Finch. My records show that at any time between March 16 and April 17 it is not unusual for singing to begin. March 3 (in the precocious season of 1878*) is an exceptionally early date; April 23, 1883, an exceptionally late one. In the spring and early summer singing is likely to be inconstant; doubtless for the reason that the birds are not disposed to stay long at any locality when not under the restraint of domestic duties, and while wandering about in flocks they seem disinclined to sing.

Final songs are sung at the last of August (20th and 26th to 30th); though I have no record for 1881 later than August 8, notwithstanding that the birds were present through the month; possibly observation was at fault.

After the close of summer their song is not again heard until the following spring. Singing begins in the spring before the perfect summer plumage is assumed; but for that matter many of the birds are to be seen even so late as mid-May with a dusky tarnish still marring their golden coats. The Goldfinch often sings while on the wing.

Passerculus sandvicensis savana. SAVANNA SPARROW.

This Sparrow is one of the few spring migrants which are not in song on their arrival, and is also the only one of our song-birds which I find in full moult while migrating in the spring. Even so late as the fourth week of April individuals are to be found covered with sprouting and growing feathers; but at the same time, and before, others have acquired their full spring attire.

The dates that I have recorded limiting its presence in the spring are March 23 and May 19; while I have heard its song

*See a paper by the writer in 'The Country' for March 31, 1878, 'On the Animal and Vegetable Life of the Past Winter.'

between April 9 and May 2. Beyond the latter date it is never common, and in some seasons there are but few birds remaining at the end of April. Singing does not usually begin until from two to three weeks after the pioneer migrants have made their appearance.

This Sparrow I have never heard sing in the autumn.

Pocœcetes gramineus. GRASS FINCH.

Where this Sparrow breeds numerously it perhaps sings on later into the summer than in the locality of my observations, where it is not a common summer bird. In some years I have not heard it long after the entry of July, but usually it sings till late in the month, and I am not without dates of its singing in early August.

In the autumn the species as a whole is without song, but individuals sometimes infringe the general rule of silence. At Saratoga, on September 30, 1883, a bird rose into the air from a sandy field, ascending with an excited chippering which passed into the musical notes of a varied and extended song; this instantly suggested the song of the Vesper Sparrow, differing, however, in being less definite in theme and more prolonged, but just as the songs of many birds while on the wing differ from their usual strains. Where the bird alighted a flock of Vesper Sparrows scattered up on my approach, and there can be no doubt that it was to one of their number that I had listened. I had not before observed the song-flight in this species. Another record of this Sparrow's singing in the autumn has been mislaid.

Coturniculus passerinus. YELLOW-WINGED SPARROW.

This little field bird continues in song up to the middle of July or later, sometimes even into the early days of August. It seems most persistent in song in hot, dry summers, when, on the most fervid days, its fine notes sound sibilant and insect-like about the parched fields.

Zonotrichia leucophrys. WHITE-CROWNED SPARROW.

I have never to my knowledge heard the song of this fine Sparrow; nor, indeed, have I ever found it a common bird in the

spring. Nevertheless it is sometimes not uncommon at that season, and may sing with some constancy. At Sing-Sing, twenty miles north of Riverdale, in May, 1882, Dr. Fisher found it in some numbers, and heard its full song between May 9 and 26. Dr. Fisher alludes to the song as suggestive of that of the Meadow Lark.

Zonotrichia albicollis. WHITE-THROATED SPARROW.

This Sparrow is here a winter resident, appearing from further north in the latter part of September, and remaining into May. I have heard its song every month during its stay; but in winter, except at the borders of the season, singing is exceptional and always of imperfect expression. Song at this season seems merely to result from individual caprice.

Perhaps none of our birds shows greater irregularity from year to year in the time of general entry into spring singing than the White-throated Sparrow. While early April seems to be the usual time for singing to begin, it is not unusual for it to commence at any time in March, and in an abnormally mild season may begin before the end of February. On the other hand, it is sometimes deferred until the middle of April. Dates of final spring songs run through May to the 20th, and usually, though not always, occur a week or more before the species has disappeared. This discrepancy between the time of final song and departure, which is also noticeable with other species, is doubtless to be attributed to the fact of the songless females outstaying the males.

When the White-throated Sparrows reappear among us, in September, they are songless, and a week or two may elapse before they give voice. Dates of first autumn songs, of several seasons, range from October 3d to 7th.

The White-throated Sparrow has two especially characteristic single notes; a low *cheep*, and a resonant, metallic *chink*. This last sounds not unlike the clink of a metal hammer and drill, and when it is uttered by several birds in regular turn the effect in sound is strongly suggestive of that of quarriers at work near by. This note chiefly belongs to the late afternoon and early evening, and seems to be in general use only when a party of the birds are settling for the night about some chosen shelter. About my residence are large closely-grouped Norway spruces. At sundown,

in late autumn, winter, and early spring, many White-throated Sparrows congregate nightly for shelter in the dark recesses of these shaggy evergreens. Ere they have settled for the night their clear resonant notes fall upon the ear in confused rehearsal, but they are subdued to gradual decadence with the deepening shadows, until only now and then a single note breaks the stillness; then there is silence and night has fallen.

THE DISTRIBUTION AND MIGRATION OF *ZONOTRICHIA QUERULA.*

BY W. W. COOKE.

WHILE living in Northern Minnesota I shot a bird, late in the fall, which was with difficulty identified. The 'Key' carried it straight to *Zonotrichia*, but it had no white crown, no white throat, and no black head; hence, how could it belong there? At last it was discovered that, like the play of Hamlet with the part of Hamlet left out, this was a Black-headed Sparrow minus the black head. The acquaintance then formed has ripened into a lasting friendship, and from that time the jaunty bird has been an especial favorite. It came to me under several circumstances tending to excite interest. It was the first true western bird I had ever seen, nor could I learn from any books at hand whence it came or whither it went; no one had ever seen its nest and eggs, and even its winter home was but imperfectly known. For three years its coming and going in the North were noted, and then after quite a long separation it was again greeted last fall in its winter home near the southern boundary of Indian Territory. As might be expected, its movements during the winter were watched quite carefully, and it is the intention of the present article to add to these observations all that is now known of its distribution and migration.

Our subject was first described by Nuttall from Westport, Mo., in 1840, and for the next thirty years not much was added to our knowledge of it. Up to 1873 most of the notices respecting it were from the Missouri River, along which it had been traced for

nearly a thousand miles; the other notes are a few scattered ones from Iowa and Dr. Coues's observations in the Mouse River region of Northern Dakota. So persistently had it been noted from the Missouri River, that Dr. Coues, in 'Birds of the Northwest,' gave its habitat as "Region of the Missouri. East to Eastern Iowa." Since then it has been noted from widely separated districts, but its whole bibliography is limited.

Let us first trace out its habitat. Toward the west I am unable to give its extension with any degree of precision. Mr. Goss, in his late catalogue of the birds of Kansas, gives it as a winter resident in Kansas, and as common in Southern Kansas. Dr. Waston, of Ellis in Western Kansas, writes me that they occur there in fall and spring, and are sometimes abundant. It is probable, that, like the other birds of the Plains, they extend either regularly or occasionally to the foothills of the Rocky Mountains.

To the eastward our knowledge is more definite. There is no Louisiana nor Arkansas record that I have seen, but in Western Missouri they are common, and pass eastward to about the middle of the state; the most eastward record I possess being that of Mrs. Musick, at Mount Carmel, Mo., who found both the first and the bulk April 3, 1884. In Iowa it ranges a little farther east, being common in the western and middle parts, and a straggler to the eastern part, one being sent me for identification from Mitchell, Iowa, near the Wisconsin line. It has even wandered twice to Illinois, having been taken at Bloomington and at Normal. The whole of Minnesota has been preëmpted by our subject, as I have records from the four corners of the state; and last fall it made bold to cross into Wisconsin, only to yield its life in the interest of science at Trempeleau. We also have a former Wisconsin record by Dr. Hoy from Racine.

If we seek its southern boundary we must journey afar. Without record from intervening territory, Mr. Dresser secured two specimens at San Antonio, Texas, and later Mr. N. C. Brown tells us in the 'Bulletin' that it was an abundant winter resident at Boerne, Texas, thirty miles from San Antonio. In his careful and extended review of the birds of Galveston and vicinity (Bulletin, 1882) Mr. Nehrling does not give it; hence we may conclude that if it does reach Southeastern Texas, it must be as a straggler.

Mr. G. H. Ragsdale writes me that it is an abundant winter bird at Gainesville, in Northeastern Texas, and he has left a record

(Bulletin, III, July 1878, p. 92) that during the winter of 1876-77 it disappeared, being driven south by the cold weather. From the printed records, then, we may say that its southeastern limit is somewhere near the middle of Eastern Texas.

The northern limit is entirely indeterminate. It reaches into British America, but how far we know not.

It will be thus seen that its habitat may be characterized as: Plains of the United States, from Southwestern Texas to British America. East rarely to the Mississippi River. Accidental in Wisconsin and Illinois.

We turn now to its migration. Dr. Coues speaks of its appearing in Northern Dakota late in September. At White Earth, Minnesota, I used to note its arrival about the middle of that month, and it loitered as long as possible, leaving just before the first snow fell. During its sojourn it was the commonest and most conspicuous species. Last fall the first one reached Manhattan, Kansas, on October 27, and the species became immediately abundant, remaining so until the latter part of December. Like many other birds, the very severe weather of the last of December and the first of January sent it farther south than usual. At Pierce City, Mo., it was abundant in the fall, but after the 2d of January none were seen. At Darlington, Ind. Ter., it was present all winter, and the same was true at Caddo, Ind. Ter., and at Gainesville, Tex.

For an account of its behavior last winter at Caddo, Ind. Ter., thirty miles north of Denison, Texas, I think I cannot do better than quote from my diary:

Nov. 8. In the evening two birds alighted on the fence in my back yard; one having the black head- and throat-patch, the other with no really black feathers. They were the first of the season.

Nov. 24. A small party seen.

Dec. 25. Common. The arrivals from the north seem to be about all in. It is an abundant winter resident of Caddo. I found them to-day even slightly outnumbering *Cardinalis*. They were in small parties, quite evenly scattered along the water-courses. As I passed they would keep flying ahead of me until several parties had united, making a flock of forty to fifty birds. *Cardinalis* acted in the same way. Contrary to my expectations, I found some of the males in full dress — with the black head and jet black throat. Possibly one out of a dozen was thus attired,

while probably half of them showed black feathers among the brownish ones of the throat and breast. The rest had no sign of a black throat-patch, and but little black on the head. Entering suddenly an open spot in the woods I surprised a family party of six or eight, sitting quietly on the bare ground. This was the first time I ever knew them to rest so when bushes were near. They scurried off into the thick brush as if ashamed at being caught in such a humble position.

Jan. 8. Determined as a song of the Harris's Sparrow, a note which I had formerly supposed was uttered by the Cardinal, in whose company it is usually found. This Sparrow now has two notes, one a clear whistle, something like that of *Z. albicollis;* the other a queer, chuckling note, unlike any other song with which I am familiar. By throwing some bird-seed on the south porch of my house we had a whole colony of Sparrows in plain sight under the window. A party of some twenty Harris's Sparrows almost monopolized the free lunch; but one bright Cardinal came occasionally to take a peck, and among the jaunty, stylish *querula* could be seen one or two White-crowns in plain brown head gear, and the still more humble Tree Sparrow, which, however, made up for its lack of beauty by additional industry, devouring more seeds to the minute than any of the others.

Jan. 12. The *Zonotrichiæ* seem to be rather queerly dispersed in this country. *Leucophrys* is the least common, and is found almost entirely in the weed patches about town and on the edges of the prairies. *Querula* comes next in numbers, and most of them remain in the thickets along the water-courses; a few stray into town, especially in the coldest weather and still fewer into the heavy timber. *Albicollis*, most numerous of all, keeps strictly to the bottom-land, and even there I found them to-day only in those parts of the timber where there was a heavy undergrowth for shelter. About a hundred *albicollis* were seen to-day in some four or five parties. These parties always contained several other species of Fringillidæ, but their combined numbers were hardly more than the Peabodys. They consisted of Tree Sparrows, Black Snowbirds, Song Sparrows, and Field Sparrows. Not a *leucophrys* nor *querula* was identified after I reached the heavy timber.

Feb. 15. A party seen—the first for some time; they were all dull-colored — not a black head among them.

Feb. 18. A few are around, but whether the rest have gone south or north I do not know. Not many black heads seen yet, though many show black feathers on the crown.

Feb. 23. A few seen in the timber, but more common on the borders of the woods.

Feb. 26. The scarcity of *querula* during the early part of this month was probably due to their moving southward; they are now back again and are spread all over the small thickets.

March 5. Is spreading; saw a large party feeding on the ground in a barn-yard on the prairie.

March 10. Last night was perfect for migration — moderate south wind, perfectly clear, and moonlight. This morning shows a decided decrease in *J. hyemalis*, *S. montana*, and *Z. querula*. Indeed, I think the bulk of these species departed last night.

March 11. Almost the whole have gone, only a few seen.

March 13. Large arrivals from the south.

March 15. About the most numerous of any time this spring.

March 19. Still seen in small parties.

March 25. A single bird, the last seen.

Passing now to study its movements at other points, we find that in 1877, Mr. Brown speaks of the last one leaving Boerne, about the first of April. This year the northward movement commenced about the first of March, and the bulk left Gainesville, Tex., on March 12; three days later the transients were at their height at Caddo; those which spent the winter at Caddo left March 10. The bulk arrived at Pierce City, Mo., March 17, and the next day at Manhattan, Kans. At Alda, Neb., they were seen March 23, and then comes more than a month during which there was no advance. They appeared at Vermillion, Dak., on May 3, and just two weeks later, at Augusville, Dak. They had previously occurred May 10, at Frazer City, Minn. The bulk is seldom more than four or five days behind the van. Some very late migrants were noted this spring; one was seen at Gainesville, Tex., May 5, and another at Mahattan, Kans., May 20.

The area of greatest abundance is the country for seventy-five to one hundred miles on each side of a due north and south line connecting Pembina, Dak., with San Antonio, Tex. Its normal winter home is from Central Kansas southward, but it is not uncommon for a few to brave part or the whole of the winter in

the extreme northern part of the State. Its summer home is yet shrouded in obscurity, but it is likely that the persistent efforts of collectors will soon put us in possession of the material for completing its life history. As has already been remarked, its nest and eggs remain unknown, but several notes are in hand bearing on its summer abode.

Professor Aughey in his 'Notes on the Nature of the Food of the Birds of Nebraska,' p. 29, says: "Common in Eastern Nebraska along the Missouri. Have not noticed it in winter, but have frequently seen the young in the northern part of the State." If by this he means that these young were reared in the state, he is undoubtedly in error. As negative testimony against it, the excellent and reliable observer, Mr. G. S. Agersborg of Vermillion, Dak., writes me, that during seventeen years he has scoured the country for fifty miles around and has never seen a specimen in summer, though common in spring and fall. Dr. Coues is unequivocal in his statement that none spend the summer south of lat. 49°. This is probably correct for the Mouse River region in Dakota, about which he was writing, but may require some modification when applied to Minnesota. It will not be surprising if its summer home shall yet be found in Northern Minnesota, in the Lake of the Woods region, since Dr. Hatch, the authority on the birds of that State, writes me as follows: "*Z. querula* is not so often met with here in spring as in fall migration, and then mostly in the Big Woods; sometimes along the belts of timber of the prairie sections. I have not personally seen it at any point beyond these woods, but I am satisfied that it is a summer resident in the northeastern portions of the State." Upon asking the grounds of this belief, he answered: "*Z. querula* has come under my notice under circumstances which led me to believe that their nests were made within the boundaries of the State, perhaps not far removed from those of *albicollis*, but I have never seen a nest, nor do I personally know any one who has. The lateness of the date at which they have sometimes come here, together with the advanced state of ovulation, is the principal basis of my conjecture, as well as their association with birds, such as *albicollis*, known to breed about two hundred miles north of Minneapolis."

ZOÖLOGICAL NOMENCLATURE.

BY J. A. ALLEN.

THE subject of trimonial nomenclature seems just now to be attracting much attention, not only in this country but abroad, especially in England, where a special meeting was recently held to consider the matter. The meeting was held July 2, in the lecture room of the Zoölogical Department of the British Museum, pursuant to the subjoined call,* which sufficiently explains the occasion of the meeting. From the report of the proceedings in 'The Field' of July 6, and in 'Nature' of July 10 and 17, we learn that among those present were Lord Walsingham, Professor Flower, F. R. S., Dr. Günther, F. R. S., Dr. P. L. Sclater, F. R. S., Dr. H. B. Woodward, F. R. S., Professor Traquair, F. R. S., W. T. Blanford, F. R. S., Henry Seebohm, F. L. S., Howard Saunders, F. L. S., Professor J. Jeffrey Bell, J. E. Harting, F. L. S., G. A. Boulenger, H. T. Wharton, F. L. S., S. O. Ridley, F. L. S., W. F. Kirby, Sect. Ent. Soc., Herbert Druce, F. L. S., W. R. Ogilvie Grant, and R. Bowdler Sharpe, F. L. S. The chair was taken by Professor Flower, who, in opening the proceedings, read a letter from Professor Huxley, P. R. S., expressing his regret at not being able to be present, in

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* "ZOÖLOGICAL NOMENCLATURE.

NATURAL HISTORY MUSEUM,
June 24th, 1884.

"SIR: Taking advantage of the presence in this country of the distinguished American Zoölogist Dr. Elliott Coues (who represents the advanced opinions of American Naturalists), it is proposed to hold a meeting of British Zoölogists to consider the expediency of adopting certain changes, more especially in the direction of trinomial nomenclature.

"For the purpose of obtaining a discussion of the question a meeting will be held in the Lecture Room of the Natural History Museum on Tuesday, July 1st [2d], at 3 P.M. (Professor Flower, F. R. S., in the chair), when Mr. R. Bowdler Sharpe will read a paper (with illustrations) "On the expediency, or otherwise, of adopting Trinomial Nomenclature in Zoölogy."

"As the question is one of great importance to Zoölogists your attendance at this meeting is *earnestly requested.* Dr. Coues will be present.

I am, sir,
Your obedient servant,
R. BOWDLER SHARPE."

consequence of pressing official business. From the full report of the meeting given in 'Nature' we condense the following abstract of proceedings: —

The Chairman, Professor Flower, in his opening remarks, alluded to the extreme importance and difficulties of the subject, for while the name of any natural object is one of its most trivial and artificial attributes, laxity in the use of names causes endless perplexities and hindrances to the progress of knowledge. He often found little difficulty in making out the characters and structure of an animal, but when called upon to decide by what name to call it he often found himself in a sea of perplexity. He hoped the present discussion would help to clear up our ideas on the subject. Abstaining, with the impartiality due from the chair, he would withhold his opinion upon the merits of the rival schemes to be proposed until after hearing the arguments, and called upon Mr. R. Bowdler Sharpe to read a paper 'On the expediency, or otherwise, of adopting Trinomial Nomenclature.'

Mr. Sharpe said he approached the discussion of the subject without the least prejudice either for or against the adoption of trinomial nomenclature. He alluded to the fact that for some time the system had been recognized and followed by zoölogists on the other side of the Atlantic, and stated that to a certain extent the principle had been admitted by more than one worker in the Old World. The presence in this country, he said, of one of the most able advocates of the system, Dr. Elliott Coues, has recently stimulated the thoughts of many of us as to the wisdom of its adoption for the zoölogy of the Old World, and it had occurred to him that a friendly meeting to discuss the matter with Dr. Coues and some of the leading British zoölogists could certainly do no harm, and might be productive of a considerable amount of good. It seemed to him that there are certain facts in nature which we all recognize, but about the expression of which many of us entertain different views. He proposed merely to bring forward certain difficult aspects of the question as they presented themselves to him, and would be glad to have an expression of opinion upon the facts to which he should call attention. In illustration of the difficulties he laid upon the table a series of specimens illustrating what he considered to be one of the most interesting examples of what he conceived to be a series of subspecies, or representative races, of one dominant form.

The birds in question were the *Astur badius* group of Goshawks. 'In Southern Africa is a small form called *Astur polyzonoides*, which inhabits the whole of the South African subregion, but does not, so far as my knowledge goes, extend beyond the Zambesi. In Senegambia and Northeast Africa it is replaced by a race called *Astur sphenurus*, in which the color of the under surface is much more delicate than in *Astur polyzonoides*. From Central Russia, throughout Turkey, Asia Minor, Persia, and Syria, a large race called *Astur brevipes* replaces the two foregoing subspecies, and forms a third. From Baluchistan, throughout India, and Ceylon, a somewhat smaller form, *Astur badius*, takes up the running, and throughout the Burmese countries, extending to Formosa and Hainan, we have yet another race, *Astur poliopsis*, which is a purer and more elegant edition of *Astur badius*. This little group of Goshawks has been well worked out, and we may fairly presume that we have the facts before us. Now I should like to know if this is a case where we might adopt the trinomial system, and call these birds

Astur badius,
Astur badius poliopsis,
Astur badius brevipes,
Astur badius sphenurus.
Astur badius polyzonoides.

"At present, were I writing about the South African bird or the Abyssinian bird, I should never speak of them as *Astur badius*, which is the name belonging to the Indian bird exclusively, and I am not quite sure that we gain in this case anything whatever by adopting trinomial nomenclature. The same parallel may be drawn with some of the species of *Scops* among the Owls, as may be seen by the series now exhibited, and here trinomial nomenclature might perhaps be employed. Thus the representative races of *Scops giu* would be *S. giu capensis* in Africa, *S. giu pennatus* from the Himalayas, *S. giu minutus* from Ceylon, *S. giu stictonotus* from China, *S. giu japonicus* from Japan, *S. giu malayanus* from Malacca, *S. giu rufipennis* from Madras, and *S. giu brucii* from North-Western India."

In further illustration he adduced a group of Asiatic Crows, where he believed trinomial nomenclature could be employed to advantage. A case of a different kind was presented by several species of *Chibia* from the Malay Archipelago, where the

Drongos from different islands or groups of islands were representative insular forms. The use here of trinomial designations he believed conveyed an exact impression of the value of these forms, which are so closely allied as to be almost indistinguishable. A more difficult case is that of the Yellow Wagtails, in treating which Drs. Finsch and Hartlaub, and also Baron von Heuglin have employed, as he believed prematurely, trinomial nomenclature. Mr. Sharpe considered that the intermediate forms which undoubtedly exist are due to another and totally different cause, viz., to bybridization, although the case is not proved.

Mr. Sharpe, in continuing, said: "There is one advantage which we must all admit that the American zoölogists possess over ourselves, and that is, that they have a clear idea of the natural geographical divisions of their continent, and their zoölogy has been studied from many distinct points of view, such as the presence or absence of rainfall, etc., and it only requires a glance at Mr. Hume's essay on the distribution of Indian birds with respect to the distribution of rainfall throughout the Indian peninsula to see how very important is this aspect of the subject. Even in the British Islands there are variations in the size and coloration of some of our resident birds, as any one may learn from Mr. F. Bond, who has devoted sixty years of his life to the study of British ornithology, and who now has one of the most interesting collections in this country But when we come to study the birds of Europe and the Palæarctic region generally, how small is our real knowledge, and what vast areas are there concerning the ornithology of which we know next to nothing! Great praise is, therefore, due to men like Dr. Menzbier, who has just written the first part of an elaborate treatise on the geographical distribution of birds in Russia; but it will be a long time before we can have in any museum such a series of birds as is possessed by the Smithsonian Institution for any one wishing to study the geographical distribution of the birds of North America." He added that the British Museum was fully alive to the importance of the question, but he found that nothing was more difficult than to procure from his colleagues in other countries of Europe representative sets of the common resident birds of their respective countries.

In regard to the Goshawks, the Scops Owls, and the Crows, he was not yet certain whether treating them as subspecies, as

he had done in his 'Catalogue,' was not as advantageous as the employment of trinomial nomenclature. In regard to the Long-tailed Titmice (*Acredula caudata* group), where several forms are connected by intermediate gradations, he believed the adoption of the trinomial system would be a positive advantage.

In concluding he stated that the great difficulty he perceived in the way of the adoption of trinomial nomenclature was encountered in the fact that it would open the door to a multiplication of species, or races, founded on insufficient material by authors lacking in experience of the difficulties of the subject; "but," he added, "I cannot conceal from myself that the code of nomenclature proposed by the British Association and followed by most of us, scarcely accounts for the treatment of facts as they have been developed in zoölogical science since the promulgation of that code, and that before long it will be the duty of British zoölogists to attempt its modification."

Mr. Seebohm followed with a paper in continuation of the subject, in which he showed an exceptionally clear conception of the conditions of the problem to be met, and proposed a "modification of the American system of nomenclature." He said: "The question of a binomial or trinomial nomenclature is not a very simple one. So long as ornithologists were under the delusion that all species were separated from each other by a hard and fast line, the binomial system of nomenclature was sufficient. Now that we know that many forms which have been regarded as species are connected by intermediate links with each other, and that many species present important local variations which cannot be ignored, we are obliged to admit the existence of subspecies as well as species. There can be no doubt that the too tardy recognition by European ornithologists of what might not unreasonably be regarded as the most important fact in ornithology discovered during the present century has been very largely due to a pedantic adherence to a binomial system of nomenclature. Now that we have emancipated ourselves from the fetters with which our predecessors, with the best intentions in the world, cramped our ideas, the question arises, how shall we recognize in our nomenclature the existence of sub-specific forms; by a word, or by a sentence? The ornithologists of America think that a system of trinomial nomenclature will answer the purpose. They have come to the conclusion that the insertion of a third link in the

chain which binds us will give our ideas scope enough. Their theory is that the judicious ornithologist will be able to select from the infinite number of steps which form the series of intermediate races which lie between two intergrading species, one, two, three, or even in some cases more local or climatic races which are worthy of being dignified by a name. This theory is on the face of it somewhat illogical. It credits ornithologists with an amount of discretion which their past history does not justify, and totally ignores the inordinate desire to introduce new names which is unfortunately too conspicuous in most if not all ornithological writers, culminating in the absurdities of a Brehm. That ornithology should be preserved from being Brehmised must be the devout prayer of every well-wisher of the science. On the other hand, the recognition of subspecies by a sentence would be to revert to the customs of the præ-Linnæan dark ages of nomenclature, a retrograde step from which all zoölogists would instinctively shrink. Members of the British Ornithologists' Union are probably all prepared to admit that a medium course is safest at least for an Ibis (*medio tutissimus ibis*), and, with a very slight modification I, for one, am prepared to adopt the American system in spite of its dangers. If no paths are to be trodden in which the indiscreet may err, there is an end at once to all progress.

"To point out the modifications which I propose to introduce into the American system of nomenclature to change it from an empirical system to a logical or scientific system, I will take as an example the Common Nuthatch (*Sitta europæa*), and show how the nomenclature of its various races may be made exhaustive, so that the temptation to introduce new names, which appears to be irresistible to the indiscreet ornithologist, may be minimised.

"*Sitta uralensis*, with white under parts, is found in Siberia; *Sitta cæsia*, with chestnut under parts, is found in England; intermediate forms connecting these species together are found in the Baltic provinces. What can be more simple than to call the intermediate forms by both names, *Sitta cæsia-uralensis?* But there is a third species which turns up in China, *Sitta sinensis*, and which is also connected with *Sitta uralensis* by intermediate forms. Never mind; they too can be called by both names, and our series of Nuthatches runs geographically in an unbroken series:—

Sitta cæsia,
Sitta cæsia-uralensis,
Sitta uralensis,
Sitta uralensis-sinensis,
Sitta sinensis.

"So far so good; but, unfortunately, two more complications arise. Besides the series running southwest into *S. cæsia*, and that running southeast into *S. sinensis*, two other series run from the central form *S. uralensis*, one running due west and then round by the Baltic into the Scandinavian *S. europæa* (a larger bird, and somewhat darker on the under parts), and a second running due east and then round the Sea of Okotsk into the Kamchatkan *S. albifrons* (a bird much paler on the head, which shades into white on the forehead), so that it is necessary to add four more names to the list, which will stand as under:—

"*Sitta cæsia* is found in Britain, South-West and South Europe, and Asia Minor. It is medium in size, but extreme in the darkness of the chestnut of the under parts.

"*Sitta cæsia-uralensis* (with a hyphen between the two specific names) represents all the forms intermediate between South European and Siberian examples, which occur in Denmark, Pomerania, the Baltic provinces of Russia, Poland, and the Crimea.

"*Sitta europæa* is the Scandinavian form, and represents the extreme of size, whilst in color it is intermediate between the forms found in the Baltic provinces of Russia and Central Siberia.

"*Sitta europæa-uralensis* comprises all the intermediate forms in Russia which connect the Scandinavian with the Central Siberian forms.

"*Sitta uralensis* is found in the valleys of the Ob, the Yenesei, and Lena, and combines the small size characteristic of the various Asiatic subspecies of Nuthatch with the dark upper parts of the sub-tropical forms, whilst the under parts are nearly as white as in the Kamchatkan form.

"*Sitta uralensis-albifrons* may be applied to all those intermediate forms found in East Siberia and the north islands of Japan which are not quite so pale on the upper parts as the Kamchatkan form.

"*Sitta albifrons* is found in Kamchatka, and represents the

extreme form so far as whiteness of the forehead and under parts is concerned.

"*Sitta uralensis-sinensis* may be applied to the series of forms found in the valley of the Amoor, the island of Askold, and the main island of Japan. They are intermediate in color between the Central Siberian and Chinese forms, and are scarcely to be distinguished from the Baltic province forms.

"*Sitta sinensis* is found in China, and only differs from the British form in being slightly smaller and in not having quite so much dark chestnut on the flanks.

"I have purposely chosen a complicated case in order to show the capabilities of the system, which, if the specific name of *europæa* is always repeated after the generic name of *Sitta*, becomes a compromise between that adopted by the Americans and that which I imperfectly carried out in the fifth volume of the 'Catalogue of Birds in the British Museum,' and which was originally suggested to me by a conversation with Mr. Salvin. It has at least the merit of being exhaustive, and differs so slightly from that in common use in America that its adoption does not involve a change in, but only an addition to, the system which in some form or other is destined to supercede the binominal system now rendered inadequate by the acceptance of the theory of evolution.

"As an example of the compromise I propose, I add a list of the local races of the Dipper, with their geographical ranges:—

"*Cinclus aquaticus melanogaster* (Scandinavia).

"*Cinclus aquaticus melanogaster-albicollis* sive *Cinclus aquaticus* (West-Europe, as far north as the Carpathian and as far south as the Pyranees).

"*Cinclus aquaticus albicollis* (South Spain, Algiers, Italy, Greece).

"*Cinclus aquaticus albicollis-cashmiriensis* (Asia Minor, Caucasus, Persia).

"*Cinclus aquaticus leucogaster* (East Siberia).

"*Cinclus aquaticus leucogaster-cashmiriensis* (Central Siberia).

"*Cinclus aquaticus cashmiriensis* (Cashmere, South Siberia, and Mongolia).

"*Cinclus aquaticus cashmiriensis-sordidus* (Altai Mountains).

"*Cinclus aquaticus sordidus* (Thibet).

"In this system it must be observed that wherever there is a fourth name it is always connected by a hyphen to the third name, and comprises all the intermediate forms between the two. It is somewhat cumbrous, but it provides for the contingency of any intermediate links that may occur. To express it algebraically, it provides not only for AB and BC, but also for AC. It is perhaps the only system which is theoretically perfect, but the question whether its voluminousness renders it impracticable or undesirable is one requiring careful consideration."

Dr. Coues, following Mr. Seebohm, said that he was much gratified at the interest shown in the subject of zoölogical nomenclature, and indorsed the words of the Chairman that names were of the greatest possible consequence. Nomenclature was a necessary evil, and the point was always to employ that method of naming objects which should most clearly reflect not only the characters of the objects themselves, but our ideas respecting them. He referred to the revolution in opinion that has taken place since the time of Linnæus in respect to what constitutes a species; a revolution brought about by the acceptance of the theory of evolution. It was now idle to ask "What is a species?" no such thing existing any more than a genus. So intimately related are all forms of animal and vegetable life, if they were all before us (including the extinct as well as the living), no naming would be possible, for each would be found to be connected completely with another; therefore the possibility of naming any species was, as it were, the gauge and test of our ignorance. Having thus touched very briefly upon the subject of missing links, which alone enable us to name objects which still exist, Dr. Coues proceeded to inquire, "What of so-called species the connecting links between which are still before our eyes?" He then briefly stated his views on the points at issue, citing in illustration of the subject our well-known case of the Hairy Woodpecker (*Picus villosus*). Dr. Coues's views are too well known, however, on this side of the Atlantic to render it necessary to give his remarks at length.

Dr. Günther said that he looked with favor on the method proposed by Dr. Coues and his compatriots, and stated that it was a system he had himself employed occasionally in his systematic writings since 1866, and Dr. Coues would find that in some cases he had adopted it pure and simple. If Dr. Coues and those who

were with him would follow the system of adopting trinomial nomenclature for all forms he for one would gladly employ it in all those cases in which the geographical range of certain forms is clearly ascertained.

Dr. Sclater would remind Dr. Coues that this mode of designating the forms of life was by no means new, as might be seen by reference to Schlegel's 'Revue Critique,' published in 1844. His own chief objection to the system of trinomial nomenclature was its liability to abuse. The time had now come when it would be advisable to a certain extent to use trinomials. It is only in cases where faunæ have been fully worked out that trinomial names should come into use, and for such forms he was quite prepared to adopt the system.

Mr. Blanford advanced some objections to the proposed system. It involved more terms, any one of which was liable to be changed to suit personal views, and therefore rendered fixity in nomenclature more remote than before. He thought it also less suited to some other classes of animals than to birds, and alluded to the fact that the system was almost universally rejected by a recent meeting of geologists.* He did not consider that the time had come for any innovation.

Professor Bell agreed with Mr. Blanford that the method would not be universally applicable.

Mr. W. F. Kirby said that it was necessary to distinguish subspecies and varieties at times; but he feared that the system of naming varieties was open to great abuse, especially in entomology, where the number of species is so great. He urged, very properly, that whenever a named form previously regarded as a variety was raised to specific rank, the varietal name, wherever practicable, should be retained for the species, instead of a new one being imposed as is sometimes done.

Lord Walsingham cited a number of cases of geographical variation among insects and inquired how the system would apply in the particular cases instanced.

Dr. Sharp, a well-known entomologist, thought a system of names for forms lower than species would lead to complete chaos,

* It should be said, however, that there was no one present to properly explain its scope and aims, or who understood its purpose well enough to speak intelligently in its defence. A glance at the report of the discussion is sufficient to show that it failed partly through prejudice against innovation, but mainly through ignorance as to what the system really is.

as no line could be drawn until we gave a separate name for each individual which passed through the hands of zoölogists.

Dr. Woodward, speaking from the point of conchology, could mention cases in which perhaps the system would be convenient. But the additional third term would impose additional labor upon the student, as was the case whenever a group was broken into genera, subgenera, species, and subspecies.

Mr. H. T. Wharton admitted the value of the trinomial system when well-marked intermediate forms had to be dealt with, but he would prefer to see no other names introduced unless they were absolutely necessary. He called attention to the fact that the method was not new, for trinomial names are to be found in botanical catalogues.

Mr. H. Saunders said that he would like to direct attention to a practical point in this question. "Most of those present were aware that there was an unpretending annual called the 'Zoölogical Record,' which consisted now of about 800 pages, and that if trinomialism were adopted, it would make the volume of two great a size."

Dr. Traquair felt convinced that were any such system to receive the authoritative sanction of naturalists, its proper limits would not be observed by the ordinary crowd of name-manufacturers. In fossil ichthyology he had been brought face to face with the question of the definition and naming of species. Here he conceived that the 'species' must include all those forms which can indubitably be shown to graduate into each other. For these the only practicable way seemed to be to have one generic and one specific name — a binomial system — and he would leave each author free to treat 'subspecies' and varieties as he pleased, but without permitting him to apply any authoritative name to such. If the present binomial system is abused by people who name 'species' which have no existence except in their imaginations, what might we not expect such writers to do if the adoption of a trinomial system afforded them further scope for their faculties!

Mr. J. E. Harting strongly opposed the system from the opportunity it afforded indiscreet specialists for naming mere individual variations as species, which was already so great an evil. He would agree to the recognition of climatic variations in any given species when they were found to be constant and well-marked, but he could not agree that the only way of recognising such variations was by adding a third name to the generic and specific

names. He would prefer to regard such forms as allied species and retain a binomial nomenclature. Nomenclature was not science, and he did not see how science could be advanced by the most perfect system of nomenclature that could be devised (!). It is true we could not get on without nomenclature, but the simpler it is the better; and the less time we spend discussing it the more we should have to devote to real study.

Dr. Coues, replying to previous speakers, said that the system of trinomial nomenclature had nothing to do with individual variations of specimens from one locality. It was not a question of naming varieties or hybrids, but there was a definite principle to proceed upon, namely that of geographical and climatal variation. He was well aware that the use of three names to designate objects in zoölogy was no new thing; but he believed that the restricted application of trinomialism to the particular class of cases he had discussed was virtually novel, and that the system would prove to be one of great practical utility. He thought that the application of the principle was a question which, after this discussion, and after further private discussions, might well be left to the discretion of authors.

The Chairman concluded the meeting by saying: "I hope that Dr. Elliott Coues is satisfied with the manner with which his views have been received. Although there are some uncompromising binomialists present, many have pronounced themselves as what may be termed limited trinomialists, and some appear to go as far as Dr. Coues himself. Distinctly defined species undoubtedly exist in great numbers, owing to extinction of intermediate forms; for these the binomial system offers all that is needed in defining them. But on the other hand there are numbers of cases in the actual state of the earth, and far more are being constantly revealed by the discoveries of palæontology, and nowhere so rapidly as in Dr. Coues's own country, where the infinite gradations defy the discrimination either of a binomial or a trinomial system. Zoölogists engaged in the question of nomenclature are being gradually brought face to face with an enormous difficulty in consequence of the discovery of these intermediate forms, and some far more radical change than that now proposed will have to be considered. In conclusion I must express the thanks of the meeting to Dr. Coues for having brought his views and those of his countrymen, of whom he is such a worthy representative, before

us, and also to Mr. Bowdler Sharpe, to whose zeal and energy the organization of the meeting is entirely due."

It appears from the report of the meeting that the chief objection, and almost the only one advanced by the ornithologists present, to the system of trinomial nomenclature, was its liability to abuse on the part of indiscreet writers. This objection we incline to think is overrated, and is applicable with greater or less force to any system. The other objections have really little weight, and were raised mainly by those who, as their remarks clearly show, had not a proper conception of the workings of the proposed system.

Mr. Seebohm's proposed compromise is certainly worthy of serious consideration, respecting which we beg to submit in this connection a few comments. In short, Mr. Seebohm would adopt trinomials pure and simple for subspecies, or for well-marked intergrading geographical forms, and to this extent is in full accord with the 'American school,' but would engraft thereon a means of designating the connecting links between such forms, through use of a polynomial designation. There is certainly a real gain in this, offset to some degree by the objection of cumbrousness. While still trinomial in principle and spirit, it practically adds a fourth term. The idea, as now fully unfolded by Mr. Seebohm, is not new to us on this side of the water, and though it has not been publicly brought forward, it has been to some extent considered privately and rejected—perhaps too hastily—as likely to add, as least seemingly, complexity and an undue burden to the system. Some years since, while engaged on a monograph of the American Squirrels, I employed a modification of Mr. Seebohm's method in labelling specimens, and have used it, and know of its being used by others to a small extent on labels in private cabinets, to express the relationships of connecting links between recognized subspecies. Without some such compromise such intergrading specimens cannot be satisfactorily designated, there being many such — all inhabiting certain intermediate geographical areas — that cannot be referred with propriety to one form rather than to another, they being so exactly intermediate between them; and yet to give them still another name, thus raising them to the rank of an additional subspecies, seems an unwarranted or at least injudicious piece of refinement. But for the proper designation of such connecting links Mr. Seebohm's compromise seems to go but half the way. For

instance, to illustrate, taking (hypothetically) Mr. Seebohm's case of the Nuthatches: For the Nuthatches the full form of designation requires the repetition of the specific name (*europæa*) after the generic name (*Sitta*) in each case. So we have *Sitta europæa cæsia*, *Sitta europæa cæsia-uralensis*, *Sitta europæa uralensis*, and so on. Mr. Seebohm asks, "What can be more simple than to call the intermediate forms by both names, *Sitta* [*europæa*] *cæsia-uralensis?*" Certainly, nothing could be simpler. But the intermediate forms—the connecting links — are obviously not of uniform character; in the nature of the case they cannot be. As we proceed eastward from the habitat of the typical or most differentiated phase of *cæsia* toward the region of the most extreme phase of *uralensis* we meet first with intermediates which are more closely allied to *cæsia* than they are to *uralensis;* then with phases as nearly allied to the one as to the other; and finally, in our eastward journey, with those more like *uralensis* than like *cæsia*. But all these intermediates that depart appreciably from either type Mr. Seebohm would call *cæsia-uralensis*, thereby ignoring the fact that a large part of the intermediates are allied more closely to *cæsia* than they are to *uralensis*, and another large part more closely to *uralensis* than to *cæsia*. If, however, we employ for the first element of the fourth name the name of the form to which these intermediates are most closely allied we are able in every case to exactly express their status and affinities. Thus, on the one hand, we would use the combination *cæsia-uraleusis* for those intermediates which are more nearly allied to *cæsia* than to *uralensis*, and, on the other, *uralensis-cæsia* for those that more nearly resemble *uralensis* than *cæsia*. This would be equivalent to saying, *Sitta europæa cæsia*, varying toward *uralensis*, and similarly in other cases. Theoretically there should be a distinctive designation for those which are exactly intermediate — as well referable to the one form as to the other; but such intermediates being few in comparison with the number that lean appreciably to the one side or the other, they may be practically ignored without great loss in exactness of expression; unless we further compromise by agreeing to designate them by writing the two names as one word, without the hyphen, thus, *cæsiauralensis*, the first term, *i.e.*, whether *cæsia* or *uralensis*, being determined by the rule of priority, the older name being allowed in all cases to stand first. It might seem preferable to place first the

name of what may be supposed to be the stock form, or that from which the others have been differentiated; but the objection to this would be the liability to disagreement among zoölogists as to what was the stock form, and thus open the way to diversity of ruling, which adherence to the rule of priority prevents.

In this way we have provision for designating all possible degrees and qualities of relationship in the connecting links between subspecies. This, added to the trinomial system, allows for a degree of refinement in the expression of relationship sufficient to meet every possible contingency. It furnishes a system at once complete and exhaustive, and involves the use of no more terms than Mr. Seebohm's compromise contemplates. We simply ring the changes on the two hyphenized words making up Mr. Seebohm's third term. It likewise should prove a check upon the tendency on the part of indiscreet authors to invent new terms in their struggle to give 'handles to facts' in geographical variation among animals. I do not see why the system may not apply equally well to other classes of animals, and indeed in palæontology, where we have intermediate phases due to gradual differentiation in time, as well as under the geographical condition of space, the principle involved being the same.

But what does all this give us as a system of nomenclature? Not a *tri*nominal one certainly, but rather a polynomial or, as Dr. Coues would say (see *anteà* p. 321), a polyonymal, one; and yet one not in any way comparable with the polyonymal system of præ-Linnæan writers, but one based on a definite principle, and contrived with reference to the expression of ascertained facts in the evolution of life.

The only objection to the system is its cumbrousness, and this, at first sight, seems a grave one when compared with the binomial (or dionymal) system, but when weighed in view of the great degree of precision and refinement of expression attainable, the question as to its utility is certainly an open one. Were there not evidently a feeling on the part of at least a few leading zoölogists that even a trinomial (or trionymal) system, while a step in the right direction, fails to meet the requirements of the case, as so forcibly stated by Professor Flower in his closing remarks already given in this paper, I should not have ventured upon the suggestions above made. These, as above shown,

propose merely a modification, to suit different emergencies, in the composition of Mr. Seebohm's complex third term. I fail to see any objection to this proposed modification, while, on the other hand, it seems to offer special advantages.

Finally, a word on the composition of these polyonymal names. Obviously the specific name of a group of subspecies should be the earliest name applied to any member of the group; this of course should invariably form the second term in the designations of the several subspecies. Then follows the name of the different subspecies as the third term, when relating to their ordinary phases. When the third term becomes complex, through an effort to designate intermediate forms between two formally recognized subspecies, the first element of the complex term should be that of the subspecies to which the intermediates are most nearly allied; and so on, as already explained.

Doubtless for all ordinary occasions the simple trionymal form will be sufficient, but when greater exactitude may be required or seem desirable, as not infrequently happens, I certainly can see no shorter or more explicit way of designating the facts in the case than resort to the complex third term, with the above designated changes of position, etc., of its component elements.

COLLECTING IN THE COLORADO DESERT—*LECONTE'S THRASHER.*

BY F. STEPHENS.

During the last week of March, 1884, I spent four days in the extreme western end of the Colorado Desert, during which time I picked up several items of interest to ornithologists. As some reader of 'The Auk' may desire to try collecting on this desert, I will give a few hints, especially as they may help others to a better understanding of the 'lay of the country.'

The Southern Pacific Railroad enters the desert from the west through the San Gorgonio Pass, between the San Bernardino Mountains on the north, and the San Jacinto Mountains on the south. These ranges, or spurs from them, diverge toward

the east, and enclose the desert between them. Much of this desert lies *below* sea-level, having been cut off from the Gulf of California by alluvial deposits at the mouth of the Colorado River. The railroad passes along the northern edge of the desert, which is uninhabited except by the men necessary to keep the railroad in operation, and by a few Indians. At Indio the railroad company keep up a hotel and eating-house. In the immediate vicinity are small mesquit trees and other brush, and a couple of miles to the north are hills in which are several groves of palms, making it a very fair desert collecting ground.

To get to the part of the desert where I went, it would be necessary to hire a conveyance large enough to carry tent, blankets, horse feed, and provisions enough to last the entire trip, as nothing but water can be procured on the desert, and the water in but few places. Don't forget a canteen, and after the beginning of April don't start for a half-mile walk without having it with you filled with water, as it is an excessively dry climate, and dangerous without water. The thermometer gets to 100° in the shade in April, and even to 130° in July and August.

We entered the desert March 26, 1884, over a sandy, boulder-strewn road, over which it was impossible to drive faster than a walk; and stopped at Agua Caliente, a warm spring a few miles south of the railroad. Half a dozen families of Indians cultivate a few acres of land in the vicinity of the spring, making a green place very grateful to the eye after passing over the cactus-covered desert.

An hour's walk among the little Indian fields revealed several species of common birds, some of which species had not as yet this season made an appearance on the opposite side of the mountains. The most interesting species found near this spring was *Calypte costæ*, and in the three following days they proved quite common all over the plain and in the foothills of the adjacent mountains. I believe the species is resident in the foothills, and it undoubtedly breeds in the cañons. In the afternoon I found an old nest of *Auriparus flaviceps*, the next day taking a bird of this species. I think this is their extreme western limit.

On the morning of the 27th our party started for a visit to a large palm grove, in a cañon six miles south of Agua Caliente. I went on ahead, and among some large larrea bushes, a mile or

so from the spring, I heard a bird singing in a low desultory way, that reminded me much of the song of *Harporhynchus lecontei* as I had heard it once in Arizona. On going towards it I saw the singer perched on a dry stem. On my attempting to approach it, it slid off to the ground and struck out on a run, carrying its tail elevated at an angle of about 45°, a more common characteristic of *lecontei* than of any other species of *Harporhynchus* that I am acquainted with. I followed it some distance, but it escaped without my getting a shot, and I failed to find it again, although I searched for half an hour.

Before reaching the palm cañon I shot a male *Lophortyx gambeli*, and saw others. The neighboring foothills furnish *L. californicus*, and *Oreortyx picta plumifera* occurs a few miles further up the mountains.

The grove of palms was tenanted mainly by *Carpodacus frontalis*. Among the masses of dead palm leaves, clustered below the living ones, were many Oriole nests. I climbed several trunks to inspect the nests, finding that they were composed exclusively of the strong hemp-like palm fibres, making a beautiful warm nest. All seen, except one, were attached to the under sides of the masses of dead leaves, among the wind-frayed filaments composing the ends of the old leaves. The exception was one apparently sewed on the under side of a large green leaf. I much wanted to get it, as it was a very pretty nest, but it was impossible to climb past the mass of old leaves which surrounded the trunk some thirty feet from the ground, and was eight or ten feet in diameter and pressed almost solid by the storms of years. I fired several shots at the leaf stem, trying to cut it off, but the tough fibres were too much for my small shot. Nearly all were the shallow, cup-like nests of *Icturus cucullatus*, but one was larger and wider than this species is likely to make, and probably belonged to *I. parisorum*. None were the more purse-like nests of *I. bullocki*. Some nests taken were filled with sound seeds of the palm, evidently placed there by a small species of mouse, of which I saw one. No Orioles were seen in the cañon, but the following day I saw several *I. bullocki* in the cottonwoods around Agua Caliente.

In going back to camp I followed down the stream flowing from the palm cañon. A mile or two below where it sank into the sand I saw another Leconte's Thrasher in a grease-wood

bush. I stopped to change cartridges and take off my hat and game bag preparatory to creeping up on it. While doing so another, probably its mate, came in sight in the bush, fluttering around with the one first seen. They were only about a hundred yards distant, but when I got within range they were not in sight, and I could find nothing more of them. They had vanished.

Pursuing my way toward camp I saw a Cactus Wren fly from her nest, which was found to contain four fresh eggs. As usual it was in a cholla cactus, and in the centre of the cactus was an old nest which I was too ill-humored to examine as closely as I should, but I noticed its resemblance to the nest of *Harporhynchus redivivus*, and believe it to have been a nest of *H. lecontei.*

A little further on I heard a low song, and standing still and looking about me I saw *H. lecontei* number four sitting on a low bush not far away. He observed me about the same time, and went off to another low bush. As he flew along I dropped among the weeds, meaning to do my best to get him. I crept along among weeds that were not large enough to hide me, but could get no better cover. I soon saw that he was watching me, and concluded that my game was up, but worked along, flattened as close to the ground as I could get, for several yards, when I came to a wash a few feet wide and a foot or so deep. I meant to try to reach and cross it, and fire from the opposite side, though it was long range. He watched me closely until I got down in the wash, where I swung my gun around and slowly raised it to fire, when I saw that he had absconded. I didn't swear, oh, no! You wouldn't either under such circumstances, would you? The 'confounded fool' had watched me as long as he could see me, and when I hid in the wash he evidently thought it was time for him to go. Perhaps he was not such a fool after all.

The morning of the 28th I left the camp, determined to get a *lecontei* if there was any virtue in perseverance added to my growing experience with this wary species. I found them foemen worthy of my steel, or lead rather. On reaching the place where I saw the first one, I saw him slipping through the brush, he having seen me first. He was again too much for me, as I was able to keep him in sight for but a few yards. A mile or so farther on I heard a call-note new to me, and carefully working toward the sound I saw two more, one of which saw me about the same

time and *went*. The call-note still sounded from a little distance to one side, and I concluded that it came from a third bird of this species. The other bird in sight did not appear alarmed, and perhaps had not seen me. I worked a little closer, when it passed leisurely through to the opposite side of the bush. I began to get a little puzzled by its unsuspicious actions, but commenced imitating the call-note, when I was much pleased to hear it reply. I succeeded in calling it out in sight, where I shot it. On picking it up its actions were explained. It was a bird of the year, and when I skinned it a few hours later I saw that it could not have been out of the nest many days.

The call-note is something like *huée-e*, whistled through the teeth. It is low and musical. *H. bendirei* has a somewhat similar call-note, though much louder and sharper. My shot probably alarmed the one I heard, as I could find nothing of it, nor of the other one I saw.

Half an hour later I saw another *H. lecontei* running over the sand, it having seen me first. A sharp run and some dodging among the bush brought me near it, with its suspicions lulled. Profiting by my former experience I began calling it. Presently it answered, and after a little careful calling I got it to sing in a low tone, occasionally stopping to utter its call-note. After a little it gained more confidence and came out in full view, but some movement of mine alarmed it, and it dove into the bush like a flash and was off without my getting a shot. I followed it some time, and got a long range shot but missed it.

I turned toward camp, and as I passed along it occurred to me that as the one I first saw had been in the same place again I might be able to find it there once more. As I had now learned the locality pretty well, I worked up very carefully and succeeded in finding him in the old place without his seeing me. I took no chances, but immediately fired and killed him, finding him to be a fine adult.

I came out again in the afternoon, seeing three, perhaps some of those seen before, but got none.

The next morning we started for home. Some two or three miles from Agua Caliente I saw a bulky nest in a cholla cactus by the side of the road. It struck me as appearing like a Thrasher's nest, and I got out to examine it. It contained three eggs, which I at once saw were new to me. They were evidently those of some *Harporhynchus*, but certainly not *redivivus*.

As the nest had evidently been deserted some time I knew of no way of *positively* identifying them, but I believe them to be *lecontei*, especially as they tally well with Mr. Holterhoff's description of the nest and eggs of *H. lecontei*, taken by him at Flowing Well, farther east on this same desert. The nest was built among the branches of the cholla, nearly in the centre of its mass. From its situation it took an oblong shape. It measured 3½ inches inside in diameter by 2½ inches in depth. Outside it was about 8 × 12 inches. The eggs were bedded in fine sand that had been blown in by the fierce desert winds, and over them lay several twigs similar to those of the outer part of the nest, and were probably once a part of it. The nest may have been abandoned some weeks, as the contents of the eggs were somewhat decomposed but not dried. One contained an embryo of considerable size.

I have given my experience with the Leconte's Thrashers with much detail; perhaps too much; but I desired to give as good an idea as I could of the little known habits of this rare bird. It is probable that in this locality the species is at least as abundant as in any other the species frequents.

The species must have a very long breeding season, as the finding of a young bird already out of the nest in March, added to the date of Mr. Holterhoff's set, which was in July, if my memory serves me right, makes at least five months' range of nesting. Coupling the long breeding season with the rarity and wariness of the birds, makes the chances for finding eggs of this species exceedingly small; so few collectors are likely to ever include eggs of *Harporhynchus lecontei* in their collections.

My note book contains a list of about fifty species noted on this desert during the four days mentioned. The migration was at least a week farther advanced than on the coast side of mountains.

ANALECTA ORNITHOLOGICA.

Third Series.

BY LEONHARD STEJNEGER.

XI. NOTES ON ARCTIC *Lari*.

MR. E. W. NELSON, in his 'Birds of Bering Sea,' p. 106, advances the opinion that *Rissa brevirostris* "undoubtedly occurs about the shores of Okhotsk Sea." I have been unable to find

any direct record of its occurrence there, or any data upon which to base such a conclusion. Von Schrenck even, when conjecturing what birds may possibly occur in that sea, omits it. Pallas did not know it, nor did Steller, Merck, or any of the older travellers meet with it. Middendorf collected on the shores of the Okhotsk Sea, as did likewise v. Schrenck, but without finding it. Dybowski also visited these parts of that distant region, and Taczanowski did not even include it in his Critical Reviews of the 'Ornithological Fauna of Eastern Siberia.' Nor has it been obtained by any of the ardent ornithologists who have been residing in Japan of late, and who also have had collectors in the Kurile Islands. That most successful collector, Wossnessenski, spent a long time on the latter islands, but it is not known that he collected this species there. I even doubt whether there is any authentic record of its ever having been obtained on the eastern coast of the mainland of Kamtschatka, the only places, in the Old World, where, to my knowledge, this species occurs being Bering and Copper Islands.

Such conjectures as to distribution are always dangerous. The next step is, that an uncritical author takes up Nelson's statement as an undoubted fact, the assertion goes into other works, and future writers will have the greatest difficulty in tracing it back to its original source. There is no need of extending the geographical range of a species before actual facts are at hand.

I should also like to make a few remarks on the bird which Mr. Nelson gives as *Larus affinis* Reinh. This is a species the history and distribution of which are still involved in great uncertainty. The National Museum has no specimen, and I doubt whether any American museum is the fortunate owner of a genuine *affinis*. The identification of this species requires comparison of specimens, or access to a rather scattered literature. It would seem that Mr. Nelson did not procure any specimen of this very difficult species; nevertheless it is identified without hesitation. If the species was only determined on seeing the flying bird, the statement of the occurrence of *affinis* as common in Plover Bay is simply valueless. If birds were killed, but not preserved, and notes taken, including measurements and colors of the naked parts, especially the feet, and a very accurate determination of the shade of the mantle, then the birds may be determinable, but until these be published, I am unable to say to which species Nelson's *affinis* should be referred.

The group of the *Lari* is so extremely difficult a one that observations, not based upon the most careful identification, are worse than none.

There is further confusion among the Gulls of Nelson's 'Birds of Bering Sea,' to which 'the Erratum Leaf' gives no clue whatever. No. 149 (page 106) is headed "*Larus leucopterus* Faber. Glaucus Winged Gull." Of this he says: "This species was found with the preceding [*L. glaucus*], and perhaps outnumbering the Glaucus Gull upon the Aleutian Islands, in the spring of 1877." The heading is evidently a mix-up of *Larus leucopterus* and *L. glaucescens*, the Latin name belonging to the former, the English appellation to the latter. In fact, the text refers mostly, if not exclusively, to *L. glaucescens*, one of the most common species of the region, the name *glaucescens*, however, appearing nowhere in his book. But what does the concluding paragraph — "it may usually be distinguished when in company with the latter [*glaucus*] by its smaller size" — mean? If *leucopterus*, it is correct. If *glaucescens*, it has hardly any sense, for when *glaucus* and *glaucescens* are together they may be easily distinguished by the color alone, while I will defy anybody to tell the living birds of these two species apart by the size. I would add, however, that I would not accept the identification even of *glaucus* and *leucopterus*, if only based upon observation of the flying bird.

I abstain from any remark upon the statement "None were seen at Point Barrow, although they undoubtedly occur there," as I do not know whether it relates to *leucopterus* proper, or is only a case similar to the 'undoubted' occurrence of *Rissa brevirostris* in the Okhotsk Sea.

XII. *Chrysomitris* OR *Spinus*?

The generic term *Spinus* Koch has been rejected for several reasons. Some authors, following Gray, refuse to accept it because preoccupied in 1752 by Möhring for a genus having *Emberiza miliaria* Linn. for type; but as we do not recognize the genera of Möhring, as given prior to 1758, its previous use by him does not prejudice its employment in the Linnæan nomenclature. The other reason for excluding the name, given by Koch, is, that the type of his genus was considered to be

Fringilla carduelis, the principal reason for this assumption being that Koch mentions *carduelis* before *spinus*. This method of ascertaining the type, however, has been long ago given up, but some few remains of its employment in earlier days still linger, as, for instance, in the present case.

Looking wholly apart from the probability that Koch, if going to specify the type of his genus *Spinus* in the same way as we do at the present time, most likely would have chosen *Fringilla spinus*, the question may be solved satisfactorily by the 'method of elimination.'

Both *carduelis* and *spinus*, originally included by Linnæus in the genus *Fringilla* (1758), were moved into the genus *Carduelis* by Brisson (1760), and afterwards by Schäffer (1789) (*cf.* 'The Auk,' 1884, p. 145). Neither of them indicated a type, although it may be safe to assume that *F. carduelis* would have been the type of Brisson's *Carduelis*. In 1816 Koch applied the name *Spinus* to the same two species plus *Acanthis linaria;* as already remarked he did not indicate a type either. Consequently the next author who might choose a type for them was justified in so doing, *linaria* being out of question as the type of Bechstein's *Acanthis*. That was done by Boie, who, in 1822, separated the two, designating *carduelis* as the type of the restricted genus *Carduelis*, while in 1826 the same author made *F. tristis* ('u. a.' = und andere—and others—evidently among these including *F. spinus*) the type of the restricted genus *Spinus*. The two genera, therefore, will stand as *Carduelis* Brisson, restricted and provided with type by Boie, and *Spinus* Koch, also restricted and provided with type by Boie.

The synonymy of the genus *Spinus* may be tabulated thus:

Genus **Spinus*** KOCH.

〈1760.—*Carduelis* BRISSON, Orn. III, p. 53 (type *Fr. carduelis* LIN.)
〈1803.—*Acanthis* BECHSTEIN, Orn. Tash. Deutschl. p. 125 (type *F. linaria* LIN.)
〈1816.—*Spinus* KOCH, Bayr. Zool. (p. 233) (type *Fr. spinus* LIN.)
[=1826.—*Spinus* BOIE, Isis, 1826, p. 974.]
=1828.—*Chrysomitris* BOIE, Isis, 1828, p. 322. (Same type.)
〈1851.—*Astragalinus* CABANIS, Mus. Hein. I, p. 159 (type *F. tristis* LIN.)

* **Σπίνος, ὁ**, the name of a small bird, as given by Aristophanes.

The North American species should stand thus:

181.* *Spinus tristis* (Linn.).
182. *Spinus psaltria* (Say).
182*a*. *Spinus psaltria arizonæ* (Coues).
182*b*. *Spinus psaltria mexicanus* (Sw.).
183. *Spinus lawrencii* (Cass.).
184. *Spinus notatus* (Dubus).
185. *Spinus pinus* (Wils.).

XIII. On the systematic name of the American Hawk Owl.

The aim of the present article is to show that the name *Strix funerea* Lin. is untenable for the American Hawk Owl, belonging properly to its continental European representative. Taking Linnæus's 10th edition (1768) of his 'Systema Naturalis' for our nomenclatural starting point we find on p. 93 of that work (Vol. I):

"*Strix funerea.*

7. S. capite lævi, corpore fusco, iridibus flavis. *Fn. svec.* 51 [1st ed. 1746].

Ulula flammeata *Frisch. av. t.* 98? *Habitat in* Europa."

This quotation needs no further comment in order to point out that the name belongs to the European bird and not to the American subspecies, and does not even include the latter. But not even those authors starting from the 12th edition (1766) are justified in applying this term to the American bird.

Two years after the publication of the 10th edition, Mr. Brisson, in his most admirable 'Ornithologia' (I, p. 518, 1760) described the latter as *Strix canadensis*. From his clear description Linnæus at once perceived that *Strix canadensis* was conspecific with his *funerea*. In the 12th edition, published six years after Brisson's work, the text was therefore altered accordingly, and reads thus:

"*Strix funerea.*

S. capite lævi, corpore fusco, iridibus flavis. *Fn. svec.* 75 [2d ed. 1761].

Strix canadensis *Briss. av.* I, *p.*, 518, *t.* 37, *f.* 2.

Habitat in Europa et America *septentrionali.*"

That Linnæus erroneously considered the American form absolutely identical with the one he had originally described as

* Ridgway's 'Nomenclature.'

occurring in Europe only, does not make the name applied first to the latter, and subsequently to both, available for the former only, and *funerea* can, therefore, by no means be employed for the American Hawk Owl, neither by the advocates of the 10th edition nor by those favoring that of 1766.

It might from the above appear as if we were compelled then to use *funerea* for the European bird, but this is not necessarily the case. Linnæus in both editions, on the same page, described the same species under another name, viz., *Strix ulula*, and there is every reason for retaining this name, which has been in general use of late by both the 10th and the 12th edition parties, and is especially commendable for the European bird, since Linnæus himself never mixed it up with its relative on the other side of the Atlantic.

The first binomial name for the American Hawk Owl will be found to be P. St. Müller's *Strix caparoch** (not *caparacoch* as quoted by some authors), published in 1779, consequently being nine years older than Gmelin's *Strix hudsonia*. Both these names are based upon pl. 62 of Edward's 'Natural History,' and consequently equally pertinent, and Buffon's Caparacoch, quoted by both of them, is also founded upon the same plate and description.

The immediate source of Müller's account is Boddaert's 'Kortbegrip' (p. 112, 1772), and the lapsus of the latter in writing "Caparoch" in place of 'Caparacoch,' and giving the habitat as Europe instead of North America, reappear in Müller's transcription.

The Hawk Owls of Mr. Ridgway's 'Nomenclature' (p. 37) should, therefore, stand as:

407*a*. **Surnia ulula** (*Linn*). *Bp.* EUROPEAN HAWK OWL.
407. **Surnia ulula caparoch** (*Müll.*). AMERICAN HAWK OWL.

The name of the latter is atrociously barbarous, but, however, in that respect is not worse than many others; and it will be found quite convenient, when we first have got used to it. It certainly is much more distinctive than *funerea*, and its sound is just as suggestive of the American habitat of its owner as would be

* *Strix caparoch* P. St. Müller, Suppl. S. N. p. 69 (1779).

Brisson's *canadensis* or Gmelin's *hudsonia*. It is an (accidental?) abbreviation of the original 'Caparacoch,' said to be the name of the bird among the natives of the Hudson's Bay Territory, but not even the most furious purist is expected to request its emendation into 'classical' Indian.

XIV. On *Sterna nilotica* of Hasselquist.

In the third volume of his 'Hand-list of Birds' (1871), p. 119, G. R. Gray enumerates the Gull-billed Tern as *Sterna* (*Gelichelidon*) *nilotica* Hasselq.,† giving Montagu's *anglica* as a synonym only.

The original edition of Hasselquist's 'Iter' was published in 1757, the name thus antedating both the 10th and the 12th editions of Linnæi 'Systema Naturalis.' In 1762, however, a German version was issued, and the names occuring in this edition are, of course, available to ornithologists favoring the 10th edition (1758) of Linnæus as the nomenclatural starting point. As the name is also incorporated in Gmelin's 'Systema' it is moreover acceptable to those author's rejecting names given earlier than 1766.

It will thus be seen that there is no escape from the name *nilotica* for either 'school,' provided the description is pertinent. It is true that Mr. Howard Saunders (P. Z. S., 1876, p. 645) says, that "there is nothing in his [Hasselquist's] description to prove that this was the bird referred to"; but an examination of the literature has convinced me of quite the reverse.

Having at hand only Latham's and Gmelin's versions of Hasselquist's original description, I shall not go further into detail, but will only ask persons interested in the question to select of their series a specimen of the Gull-billed Tern in winter plumage, in which the black spots on the nape and on the sides of the head are very pronounced, and compare it with the following description as given by Latham (Synops. Birds, III, pt. ii, 1785, p. 356):

"8. Egyptian T. Sterna Nilotica, *Hasselq. It.* p. 273, No. 41. Description. Size of a *Pigeon*. Bill black: head and upper part of the neck ash-colour, marked with small blackish spots: round the eyes black,

† It is a question whether the correct quotation should not be "Linn. in Hasselquist's 'Iter,'" as Linnæus in the preface (German edition, 1762) says that he has himself determined every specimen "according to its kind, adding the names of the animals and plants."

dotted with white: back, wings, and tail, ash-colour: the outer quills deep ash-colour: all the under parts white: legs flesh-colour: claws black.

"PLACE. Inhabits *Egypt*: found in flocks in *January*, especially about *Cairo*."

This description fits better than the average descriptions of that time. The only discrepancy of any account is that the feet are said to be 'flesh-colour,' while in the living bird in winter they are decidedly brown. The color in the dried skin, however, is such as to easily induce the describer to believe that they were flesh-colored in life. On the other hand the mistake of the author is not worse than the errors of Linnæus in describing the feet of *Sterna nigra* as 'rubri,' those of *fissipes* as rubicundi,' and those of *nævia* as 'virescentes'; in fact the descriptions of the old authors are so defective, as far as the colors of the naked parts are concerned, that little stress can be laid upon them except in cases where they are known not to change when the specimens become dry. Gmelin's description (Syst. Nat., I, 2, 1788, p. 606), is essentially the same as that given above.

Of course the statement concerning the locality is not diagnostic *per se;* but it has to be taken into account. If the description is diagnostic at the time of its publication, that is all that is required; and if the species described is said to have been common in Egypt at the time of its discovery it would not imperil the pertinency of the name if afterwards a species was discovered in a distant locality, to which the first diagnosis might equally well apply. And in the present instance the habitat assigned to the *nilotica* corroborates the opinion here advocated, that it is the same bird which many years after (1813) was called *anglica*. In confirmation I extract the following from Dresser's Birds of Europe, concerning the geographical distribution of *Sterna anglica*: "Throughout Southern Europe . . . and North Africa, eastward to Southern Siberia and the China Seas down to Australia. . . . In Great Britain it is a rare straggler . . . . Captain Shelley says that he found it most plentiful in Lower Egypt and the Fayoon, and frequently met with it as far up the Nile as Sioot; and von Heuglin states that it is a resident, and breeds in the lagoons of Lower Egypt, and is by no means rare on the Nile, where it ranges southward to the Blue and White Nile."

I think the above is sufficient to show that Hasselquist's name is the proper appellation for the Gull-billed Tern, which I contend should stand as

679. [Ridgw. Nomencl.] **Gelochelidon nilotica** (*Hasselq.*).—GULL-BILLED TERN,

thinking the structural characters to be of sufficient value to justify the generic separation of the species.

XV. *Habia* AGAINST *Zamelodia.*

In creating the new generic name *Zamelodia* Dr. Coues says as follows (Bull. Nutt. Orn. Club, V, 1880, p. 98): "The genus *Hedymeles*, Cab., 1851, was based upon this species [*Goniaphæa ludoviciana*], but cannot be used for it because of *Hedymela*, Sundev. (Öfv. Vet. Akad., 1846, 223) for another genus of birds, the difference being merely dialectic. Cabanis seems to have proposed it simply because '*Habia* Reich. 1850' was not classically correct. But *Habia* or *Abia* is said to be antedated by *Habia*, Lesson, 1831, and therefore untenable."

It is Agassiz (Nomcl. Zool., Aves, p. 34 (1843)) who first quotes "Habia *Less.* Tr. d'Ornith. 1831,"—afterwards (Index Univers., p. 1 (1846)) 'correcting' it into *Abia;* but an inspection of Lesson's 'Traité,' etc., will show that *Habia*, as used by him, is only the French vernacular name applied to the birds of the genus *Saltator* Vieill., and Agassiz might just as well have cited "Habia *Vieill.*, Analyse 1816," for that is the place where Vieillot himself applies the name as the vernacular equivalent of the systematic name *Saltator* proposed simultaneously, as the following quotation from p. 32 of his 'Analyse' shows:

"66. HABIA, de Azara, *Saltator.*"

The following year he repeated the same in the 14th volume of the 'Nouvelle Dictionnaire.' thus (p. 102):

"**Habia,** *Saltator*, Vieill.;"

Lesson simply follows Vieillot, reducing the name to a subgeneric term, however (Tr. d'Orn., p. 464):

"V^e^ Sous-genre. **Habia;** *Saltator*, Vieill."

All the 'French' names are printed in 'heavy face,' while the 'Latin' names are in 'italics' the whole book through.

It will thus be seen, that *Habia* was not used by Lesson or Vieillot as a systematic generic term, and Reichenbach was, therefore, fully justified in applying it as he did, viz., as the name of the genus having the Black-headed Grosbeak for type. Cabanis gave a new name because *Habia* was 'barbaric'; but as that is not an objection to be considered, we will have to accept it.

The synonymy of the genus stands thus:

Genus **Habia*** REICHB.

1850.—*Habia* REICHENBACH, Avium Syst. Natur. pl. lxxviii ("June 1, 1850"); (type *G. melanocephala* SW.).

1851.—*Hedymeles* CABANIS, Mus. Hein. I, p. 152 ("June, 1851"); (type *L. ludoviciana* L.; nec *Hedymela* SUNDEV., 1846).

1880.—*Zamelodia* COUES, Bull. Nutt. Orn. Club, V, p. 98 ("April 1880"); (same type).

The species, according to Ridgway's 'Nomenclature,' will stand as:

244 **Habia ludoviciana** (LINN.) ROSE-BREASTED GROSBEAK.

245. **Habia melanocephala** (SWAINS). BLACK-HEADED GROSBEAK.

XVI.—ON THE OLDEST AVAILABLE NAME OF WILSON'S PHALAROPE.

The genus *Steganopus* of Vieillot is usually quoted as having been established by that author in 1823 (Enc. Méth., p. 1106). It is, however, to be found as early as 1819 in the 'Nouveau Dictionnaire d'Histoire Naturelle,' vol. XXXII, where it is properly characterized on p. 136.

An inspection of the same article shows also that the name *Steganopus tricolor* is there applied to Wilson's Phalarope for the first time, consequently four years earlier than Sabine described the same bird as *Phalaropus wilsoni*, as the latter name dates only from the year 1823.

The species, therefore, should stand as

Lobipes tricolor (VIEILL.). WILSON'S PHALAROPE.

A NOTE ON THE GENUS *PROGNE*.

BY R. BOWDLER SHARPE, FOR. MEMB. A. O. U.

HAVING received on loan from the authorities of the U. S. National Museum the types of some of the Purple Martins,

* Le nom *Habia* est celui que quatre espèces de cette division [*Saltator*] portent au Paraguay, et que M. de Azara leur a imposé particulièrement.' (Vieill., N. Dict. d'Hist. Nat., XIV, p. 102.)—*Abia*, as emended by Agassiz, would seem to be derived from ἄβιος, in the meaning of "poor, without food," but has no connection with the original *habia*.

which formed part of the studies of Professor Baird in his celebrated 'Review,' I have the pleasure to forward to 'The Auk' my first contribution (out of many, let us hope) to that Journal, on the subject of these interesting specimens.

I do not propose to treat of *P. dominicensis*, *P. chalybea*, or *P. tapera*, which are easily distinguished, but of the unicolorous blue species, *P. purpurea* (*P. subis*, auct. Amer.), *P. furcata*, and *P. concolor*. I have found, as I believe, a new and easy way of distinguishing these whole-colored species, one which, at least, I have not seen mentioned in any work with which I am acquainted, and this is, by the number and position of the silky-white tufts of feathers on the lower back and flanks. Of these tufts, *P. purpurea* has *two*, one on the side of the lower back, and a second one on the flanks. *P. furcata* has only a *single* white tuft on the lower back, and *P. concolor* has *none at all*.

The geographical distribution of these three species is also interesting, for we find that the Brazilian Purple Martin is true *P. purpurea*, and the adult male of Baird's *Progne elegans* is only *P. purpurea* shot in its winter quarters, which, be it noted, it shares with two other North American Swallows, *Petrochelidon pyrrhonota* and *Hirundo erythrogastra*. The female and young birds of *P. elegans* are of the same species as *P. furcata*, as we have satisfied ourselves by an examination of a large series in the British Museum, and in the collections of Dr. Sclater and Messrs. Salvin and Godman. Female birds from Mendoza are identical with the types of *P. elegans* from Paraguay, and these two localities doubtless mark the horizontal range of *P. furcata*, which De Philippi does not allow to be a Chilian species.

I propose to ornithologists to adopt the name of *P. furcata*, Baird, for the southern Purple Martins, as the *Progne elegans* of the same author is now seen to be founded on examples of two different species. In conclusion I wish to acknowledge the obligation which I owe to Professor Baird and my friends at the U. S. National Museum for the privilege of examining these interesting types, although, thanks to the excellence of Professor Baird's descriptions, I had come to the conclusion here recorded without even seeing the specimens, the loan of which came upon me as a most agreeable surprise.

A NEW SUBSPECIES OF WILLOW GROUSE FROM NEWFOUNDLAND.

BY DR. L. STEJNEGER.

Lagopus alba alleni *Stejneger.* NEWFOUNDLAND WILLOW GROUSE.

SUBSPECIFIC CHAR: Similar to *Lagopus alba* (Gm.), but distinguished by having the shafts of both primaries and secondaries black, and by having the wing-feathers, even some of the coverts, marked and mottled with blackish.

HABITAT: Newfoundland.

The type specimen will be presented to the U. S. National Museum. It measures as follows: Bill from nostrils to tip, 11 mm.; wing (not flattened), 186 mm.; tail-feathers, 111 mm.; tarsus, 40 mm.

Four specimens, all in transition from autumnal to winter plumage, have been examined.*

SECOND MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE second meeting of the American Ornithologists' Union was recently held at the American Museum of Natural History in New York, the session beginning September 30 and occupying three days. The attendance, though not large, was as large as could reasonably be hoped for, considering the remoteness of residence from the place of meeting of many of the members. Besides sixteen Active Members, several Associate Members attended the meeting, which was rendered memorable by the presence of two of our distinguished Foreign Members, Dr. P. L. Sclater and Mr. Howard Saunders—the present editors of 'The Ibis' and leading members of the B. O. U.—who were cordially invited to take part in the proceedings.

The first day's session began at 11.30 A. M., the President in the chair. After the calling of the roll, and the reading and approval of the minutes of the previous meeting, the Secretary presented his report, in the course of which he gave a summary of the present status of membership in the Union. This official statement gave the number of Active Members as 44; of Foreign,

* Since writing the above I have examined other specimens from Newfoundland, not less than 14 in all, all of which present the above characters.

20; of Corresponding, 16; of Associate, 63. The Secretary also referred to the very cordial manner in which the distinguished Foreign Members had responded to their notifications of election, which were usually accompanied with hearty expressions of interest in the Union and its work. The Secretary also called attention to the loss the Union had sustained through the death of one of its most eminent Foreign Members, Dr. Hermann Schlegel of Leyden.* He also called attention to the death of two Associate Members—Mr. Edgar A. Small of Hagarstown, Md., and Mr. Henry G. Vennor of Montreal.†

The Secretary's report was followed by that of the Council, which consisted of nominations for membership, and recommendation of certain proposed changes in the Constitution. The latter relate chiefly to the conditions of membership of the class of Associate Members. This provides for the payment of an annual assessment of three dollars, which gives title to one copy of the regular serial publication of the Union, namely, 'The Auk.' Action on these proposed amendments will be taken at the next annual meeting of the Union. In view of these proposed changes, the Council advised the election of only a small number of members to this class at the present meeting. Action being had upon the nominations reported by the Council, the candidates were all unanimously elected. The following four members were added to the list of Active Members, namely: Capt. Thomas W. Blakiston (M. B. O. U.), late of Japan, but now a resident of the United States; Pofessor W. W. Cooke, Red Rock, Ind. Terr.; Dr. Leonhard Stejneger, Washington, D. C. (transferred from the class of Corresponding Members); Mr. Otto Widmann, St. Louis, Mo.

The list of Foreign Members was increased by the addition of the following, five in number: Dr. Hermann Burmeister, Buenos Ayres; Heinrich Gätke, Heligoland; Mr. Howard Saunders, F. L. S., England; Mr. Henry Seebohm, F. L. S., England; Dr. W. Taczanowski, Russia.

The following named were elected Corresponding Members: Dr. J. G. Cooper, Hayward, Cal.; Mr. W. E. D. Scott, American Flag, Pinal Co., Arizona; Dr. C. Altum, Eberswalde, Germany; Dr. John A. Anderson, F. R. S., Calcutta, India;

* See Auk, I, p. 205. † See Auk, I, p. 306.

U. Bachofen von Echt, Pres. Orn. Verein, Vienna, Austria; W. T. Blanford, F. R. S., London, Eng.; Dr. Louis Bureau, Nantes, France; Maj. E. A. Butler, Roy. Irish Reg., Belfast, Ireland; Dr. Edouard Baldamus, Coburg, Germany; Dr. Rudolf Blasius and Dr. Wilhelm Blasius, Brunswick, Germany; Dr. Bogdanow, Moscow, Russia; John Cordeaux, Ulceby, Eng.; Dr. Alphonse Dubois, Bruxelles, Belgium; Professor A. Dugès, Mexico; Maj. H. W. Feilden, Roy. Art., Woolwich, Eng.; Dr. Victor Fatio, Geneva, Switz.; Dr. A. Girtanner, St. Galle, Switz.; Dr. Hans Gadow, Cambridge, Eng.; Col. H. H. Godwin-Austin, London, Eng.; Mr. Edward Hargitt, London, Eng.; Dr. Julius von Haast, Christchurch, New Zealand; Dr. E. Holub, Vienna, Aust.; Dr. C. F. Homeyer, Pres. Allg. Orn. Deutsch. Gesells., Berlin, Germ.; Dr. C. F. W. Krukenberg, Wurzburg, Germ.; Dr. Theobold J. Kruper, Athens, Greece; E. L. Layard, H. B. M. Con., Noumea, New Cal.; Graf. A. F. Marschall, Vienna, Aust.; Dr. A. B. Meyer, Dresden, Germ.; Dr. Julius von Madarász, Budapest; Dr. M. Menzbier, Moscow, Russ.; Dr. A. von Mojsisovics, Gratz; Dr. A. J. Malmgren, Helsingfors, Finland; Dr. A. von Middendorf, Dorpat, Russia; Mr. Frank Nicholson, Manchester, Eng.; E. W. Oates, London, Eng.; Col. N. Prejevalsky, St. Petersburg, Russia; Dr. R. Philippi, Santiago, Chili; Dr. Gustav Radde, Tiflis, Russia; Mr. E. P. Ramsey, Sidney, N. S. W., Australia; Dr. Anton Reichenow, Berlin, Germ.; Dr. Leopold von Schrenck, St. Petersburg, Russia; Capt. G. E. Shelley, London, Eng.; Baron Edmund de Selys-Longchamps, Liège, Belgium; Dr. Herman Shalow, Berlin, Germ.; Dr. W. Severtzow, Russia; Henry Stevenson, F. L. S., Norwich, Eng.; Rev. Canon H. B. Tristram, Durham, Eng.; Count Victor von Tschusi zu Schmidtoffen, Salzburg, Hung.; Dr. Hjalmar Theel, Upsala, Sweden; Don José C. Zeledon, Costa Rica.

Reports of Committees being next in order, the President called for that of the Committee on the 'Revision of the Nomenclature and Classification of North American Birds.' Dr. Elliott Coues, Chairman of the Committee, stated that the Committee had held numerous sittings, and had gone carefully over most of the subject, but as yet had left practically untouched all questions of synonymy, and also classification, as regards the higher groups. The work accomplished was the fixing of the status of the genera and subgenera, and of the species and subspecies. Although so

much had been accomplished, there was still much to be done, and therefore the report now rendered must be in the nature of a report of progress.

The first thing the Committee had to determine was the boundaries of the region to be included; and it was decided that North America, as regards the present list of birds, was to be understood as including the continent north of Mexico, Lower California, and Greenland. It had also to determine what evidence should be required for the admission of a species into the list; this it was decided must be proof of its actual capture within the prescribed limits. The Committee also found it necessary, in order to determine the tenability of names, to consider in detail the principles of nomenclature. For this purpose it took, as the most convenient starting point, the 'Stricklandian' or 'B. A. Code,' modifying and supplementing it to the best of its ability to make it meet the contingencies of modern science. The chief innovations are the adoption of the tenth (1758) edition of the 'Systema Naturalis' of Linnæus as the starting-point for the binomial system of nomenclature, and of trinomials for the designation of subspecies. While the spirit of the old code is maintained in strictness, many of its provisions are carried out in greater detail, in the hope of presenting acceptable rules for cases hitherto but imperfectly provided for.

On the completion of this portion of the work, and after having gone carefully over the matter of genera and subgenera, the Committee, with the view of expediting the work before it, divided itself into two sub-committes, to one of which (consisting of Messrs. Ridgway, Brewster, and Henshaw) was assigned the duty of fixing the status of the species and subspecies, and to the other (consisting of Dr. Coues and Mr. Allen) that of codifying the rulings of the Committee on principles of nomenclature.

Each Sub-committee later laid the results of its work before the full Committee, by whom it was duly ratified. Wherever doubt arose in reference to the rank of genera or subgenera, or the status of species or subspecies, appeal was at once made to specimens, and decided by careful examination of abundant material.

The voluminous report of the Committee on the special subject of rules was not fully in readiness for the press, but the final codification was so far advanced that the Committee was able to give the full report in substance, and to a large extent in its com-

pleted form. The reading of this part of the report (by Dr. Coues) occupied an hour and a half, and was followed by the report (read by Mr. Ridgway) on species and subspecies, including the generic changes, and presenting the list as it will finally appear, waiving such questions of synonymy as are yet to be decided. The report was accepted and adopted unanimously, and recommitted to the Committee, with instructions to complete it and submit it to the Council as soon as practicable, the Council being empowered and instructed to accept and adopt the report as finally rendered, with such changes and modifications as they may deem necessary, and to publish the same, under copyright, in part or in whole, in one or more forms, in the name and under the auspices of the American Ornithologists' Union. The reading and acceptance of the report concluded the proceedings of the first day's session.

At the second day's session the report of the Committee 'On the Eligibility or Ineligibility of the European House Sparrow in America,' was then presented by the Chairman of the Committee, Dr. J. B. Holder. The Committee, immediately after its appointment, issued a circular letter embodying a series of questions framed to elicit as fully as possible information regarding the habits of this bird. The circular was largely distributed among agriculturists, gardeners, and persons of known ability and unbiased judgment in respect to results of observation and experiment. While an attempt was made to gain information concerning the bird's history and its present geographical distribution in this country, the main question called for a fair expression of facts respecting whether the bird was directly or indirectly beneficial to agriculture and horticulture. The twenty-eight questions embraced in the circular called for data respecting its present numbers and its rate of increase; the number of broods and number of young to the brood; its protection by law; to what extent fostered and fed by man; its habits with reference to other birds; its ability and disposition to injure fruit, vegetables, and field cereals; its food, whether vegetable or insect, both in respect to the nestlings and adult, and the kinds of insects destroyed; whether known to feed upon the vapor moth (*Orgyia leucostigma*), and ichnuemon flies, and to what extent; and whether the observations reported rested upon actual observation and dissection. The large number of returns received bear overwhelmingly against the Sparrow. There

is ample testimony showing that the young are fed pretty uniformly upon the larvæ of numerous species of insects, and that the adult birds prefer grain and the seeds of indigenous plants. Evidently the services of this bird are not to be overlooked. On the other hand, testimony of a conclusive character points to the retirement of our native insectivorous birds before the hosts of Sparrows, and leads to the inevitable conclusion that the fostering of this bird tends manifestly to the suppression of birds designed by nature to occupy our woodlands, parks, and gardens. Besides this, there is definite and weighty testimony to the effect that the Sparrows, assembling in large flocks, prove very destructive to fields of grain, instances of which were detailed in the Committee's report. We have, then, also to deal with this bird as a menace to agriculture.

In considering the question of a remedy against the threatened undue increase of the Sparrows, the Committee was loath to advise their wholesale slaughter, but would recommend, as tentative measures, the removal of all nesting boxes or other means of protection from parks and gardens; that they should not be fed; that State laws for their protection should be repealed, and that their transportation for introduction to new localities should be prohibited by legislative enactments, fixing a considerable penalty for such offences. In short, the Sparrows should be subjected to the same struggle for existence as our native birds, which their graminivorous habits, fecundity, and hardy nature too well fit them to maintain. The Committee had taken much pains to secure evidence from those who advocated the cause of the Sparrow, yet the testimony gathered showed that its injurious traits greatly overbalance its beneficial qualities, and that the question as to what we are to do with the Sparrow is really one of great importance, the threatening evil being one of serious magnitude.

The Committee 'On Avian Anatomy' being called upon, Dr. Coues (in the absence of the Chairman, Dr. R. W. Shufeldt,) made a brief report of progress, which was accepted and the Committee continued.

Mr. Brewster, speaking in behalf of the Committee on Oölogy (in the absence of the Chairman, Capt. Chas. E. Bendire, U. S. A.), stated that no meetings of the Committee had been held, and no report had been prepared.

The Committee on Faunal Areas being called on, the Chairman, Mr. Allen, presented a report of progress. He stated that the territory of North America had been divided into districts, each of which had been assigned to a member of the Committee to work up, as follows: (1) To Dr. C. Hart Merriam had been allotted Alaska and British North America south to the St. Lawrence River, and the tier of States bordering the Great Lakes. (2) To Mr. Arthur P. Chadbourne, New England, and the British Provinces south of the St. Lawrence. (3) To Dr. A. K. Fisher, the States east of the Mississippi River south of the Ohio, including New Jersey and Pennsylvania. (4) To Dr. E. A. Mearns, U. S. A., the great interior, from the Mississippi westward to (and including) Idaho, Nevada, and Arizona. (5) To Mr. L. Belding, the Pacific Coast region, or the territory west of Dr. Mearn's district. The plan of the Committee contemplates the graphic representation, by means of colored maps, of the distribution of each species of North American bird, in a way not only to show the extent of its distribution in North America north of Mexico, but also its breeding, winter, and migratory ranges, by means of different tints on the same map. All data obtainable from published works are to be fully utilized, and these then supplemented by new data freshly gathered, through personal exploration on the part of the members or by correspondence with local observers. Fortunately for the Committee, the Chairman stated, a plan of coöperation had been agreed upon between this Committee and that on the Migration of Birds, whereby an important contribution of new data would soon become available, the Chairman of the Migration Committee having requested his numerous observers to send in a briefly annotated list of all the birds occurring at each observer's station, for the purpose of turning over the same to the Committee on the Distribution of Birds. The final results of the Committee's work will include not only an extensive series of maps, but a textual report, and a generalized map illustrative of the Faunal Areas.

Dr. Sclater being called upon, as a distinguished student of the geographical distribution of animals, for remarks, said that he was glad to know that North America, which he knew as the Nearctic Region, was being worked in so thorough a manner. The subject was one of great interest, and he thought the

results of the work of this Committee could not fail to be of high importance.

By suggestion of the Chairman, the name of the Committee was changed from a 'Committee on Faunal Areas' to a 'Committee on the Geographical Distribution of North American Birds.' Later, in view of the intimate relation of the work of the two Committees, and the fact that the members of the one were also nearly all members of the other, the two Committees were merged in one under the title of a 'Committee on the Migration and Geographical Distribution of North American Birds,' the original committee on 'Faunal Areas' retaining its organization as a sub-committee of the 'Committee on Migration.'

Mr. Brewster called attention to the wholesale slaughter of birds, particularly of Terns, along our coast for millinery purposes, giving some startling statistics of this destruction, and moved the appointment of a Committee for the protection of North American birds and their eggs against wanton and indiscriminate destruction, the committee to consist of six, with power to increase its number, and to coöperate with other existing protective associations having similar objects in view. After earnest support of the motion by Messrs. Brewster, Chamberlain, Coues, Goss, Merriam, and Sennett, it was unanimously adopted, and the following gentlemen were named as constituting the Committee: William Brewster, H. A. Purdie, George B. Grinnell, Eugene P. Bicknell, William Dutcher, and Frederic A. Ober.

By invitation of the President, Dr. Sclater again addressed the Union, taking for his subject three large and valuable collections of birds, namely that of the Boston Society of Natural History, that of the American Museum of Natural History in New York, and that of the Philadelphia Academy of Natural Sciences. He had been pained to find that neither of these collections was in charge of a paid and competent ornithological curator. They each contain type specimens having high value. A grave responsibility rests upon the possessors of type specimens, the loss or injury of such specimens being a great and irreparable loss to science. He hoped that the Council of the American Ornithologists' Union would take such action as would bring the matter in its true light to the attention of the proper authorities.

The third day's session was occupied largely with the report of the Committee on Bird Migration. The Chairman, Dr. Merriam, gave a *résumé* of the character and plan of the work undertaken by the Committee, and presented reports from several of the superintendents of districts in illustration of the method of tabulating the returns received from observers, and also one report showing the final generalized results. He referred to the circular issued by the Committee,* defining the limits of the districts, thirteen in number, and the duties of the superintendents, and giving instructions as to methods of observation. In order to secure the large number of observers needed for the work, the Chairman wrote personally to 800 editors of newspapers, sending them circulars and asking them to call attention to the character and importance of the work and the need of observers. The press accordingly gave wide currency to the call for aid, abstracts of the circular, and sometimes the circular in full, with favorable editorial comment, being published in several hundred newspapers. This resulted in upwards of 3000 applications to the Committee for circulars of information and instruction, and the enlistment of nearly 700 observers, in addition to the keepers of lighthouses and lightships, raising the total number of observers secured to nearly 1000, distributed as follows: Mississippi Valley District, Professor W. W. Cooke, superintendent, 170; New England District, John H. Sage, superintendent, 142; Atlantic District, Dr. A. K. Fisher, superintendent, 121; Middle-Eastern District, Dr. J. M. Wheaton, superintendent, 90; Quebec and the Maritime Provinces, Montague Chamberlain, superintendent, 56; District of Ontario, Thomas McIlwraith, superintendent, 38; Pacific District, L. Belding, superintendent, 30; Rocky Mountain District, Dr. Edgar A. Mearns, superintendent, 14; Manitoba, Professor W. W. Cooke, superintendent, 10; British Columbia, John Fannin, superintendent, 5; North-West Territories, Ernest E. T. Seaton, superintendent, 5; Newfoundland, James P, Howley, superintendent,—?†

The Committee was fortunate in obtaining the coöperation of the Department of Marine and Fisheries of Canada, and of the Lighthouse Board of the United States. By this means it secured the free distribution of upwards of 1200 sets of schedules and

* See Auk, I, pp. 71-76.

† Not yet heard from.

circulars to the keepers of lighthouses, lightships, and beacons in the United States and British North America.

The returns thus far received are exceedingly voluminous and of great value. They are so extensive that the Committee finds it utterly impossible to elaborate them without considerable pecuniary aid. To show the nature and extent of the labors of the Committee, reports were presented, prepared by the superintendents, on five well-known species. Several of these reports were read at length. The Committee in submitting their report for acceptance as a report of progress, urged that Congress be memorialized in reference to an appropriation of funds for the continuance of the work and the elaboration of the returns. The Union thereupon instructed the Council to prepare and present a proper memorial to Congress, and also to the Canadian Government, in behalf of the Committee, and to consider what other means could be devised to promote the work.

The report also made reference to the work of the International Congress of Ornithologists, and presented an abstract of its proceedings in relation to the migration of birds at its first meeting held a few months since in Vienna, at which was made a strong appeal for international coöperation throughout the world, through the medium of the various governments, which were urged to appropriate sufficient sums of money for the support of stations and the publication of annual reports of the observations made.

Under a call for the presentation of scientific papers, Dr. Stejneger read a paper on a new subspecies of Ptarmigan from Newfoundland,* which gave rise to a long and very interesting discussion on the subject of Ptarmigans in general, and incidental questions, participated in by Mr. D. G. Elliot, Dr. Coues, Dr. Merriam, Messrs. Brewster, Comeau, and Ridgway.

Mr. Sage contributed a number of notes on the occurrence of rare birds in Northern New England, and Dr. Merriam reported the recent capture, by Mr. N. A. Comeau, of a second specimen of the Wheatear (*Saxicola œnanthe*) at Godbout, on the northern shore of the mouth of the St. Lawrence River.

The elections of officers for the ensuing year resulted in the unanimous reëlection of the present incumbents.

The next place of meeting being then brought up for consider-

* See this Number of The Auk, p. 369.

ation, invitations were announced for the Union to meet at Quebec and Ottawa by Mr. Chamberlain, at Boston by Mr. Brewster, at Washington by Dr. Coues, and at Topeka, Kansas, by Col. Goss. Professor Bickmore, in behalf of the trustees, invited the Union to again meet at the American Museum of Natural History in New York. After some discussion the determination of the next place of meeting was referred to the Council. Resolutions of thanks were then tendered the President and Trustees of the American Museum of Natural History for their kindness in placing at the disposal of the Union the rooms in which its meetings had been held. Also, on behalf of the Committee on Migration, votes of thanks were tendered to Professor S. F. Baird, Secretary of the Smithsonian Institution, for his kindness in printing for the Committee the schedules for the use of keepers of lights; to the Hon. William Smith, Deputy Minister of Marine and Fisheries of Canada, for his kindness in distributing and collecting the blank schedules and circulars, and for his order making obligatory the filling of said schedules by the keepers of Light Stations in the Dominion; to Major William P. Anderson, C. E., F. R. S. C., of Ottawa, Canada, and to Commander Henry F. Picking, and also to the Press of the United States and Canada, for substantial aid in its work.

The second meeting of the American Ornithologists' Union then adjourned, subject to the call of the President, after a session in every respect satisfactory and profitable.

RECENT LITERATURE.

Brewster on Birds observed in the Gulf of St. Lawrence.*—In a paper of about fifty pages Mr. Brewster gives the results of observations made during a cruise in the Gulf of St. Lawrence between June 24 and August 1, 1881, in the yacht 'Arethusa,' in company with Professor A. Hyatt, Curator of the Boston Society of Natural History, and his assistant Mr. S. Henshaw, and three students of the Institute of Technology. The principal points visited were the Magdalen Islands, Anticosti, and the Mingan Islands. The list of species observed numbers 92, respecting which are notes varying in length from a few lines to several pages. While the

* Notes on the Birds observed during a Summer Cruise in the Gulf of St. Lawrence. By William Brewster. Proc. Boston Soc. Nat. Hist., Vol. XXII, pp. 364-412. (Separates issued July 1, 1884.)

notes on the 52 species of land birds abound in items of interest, much more space is devoted to the remaining 40 species of water birds, the account of which forms by far the most important part of the paper. While want of space forbids an extended notice of this very interesting paper, attention may be called to the notes on the Greater Yellow-leg (*Totanus melanoleucus*), of the breeding of which on Anticosti, where it was abundant, Mr. Brewster secured the 'strongest circumstantial evidence'; to the notes on the Gannet (*Sula bassana*), the Cormorants, Gulls, Petrels, Shearwaters, and the various species of the family Alcidæ. A very interesting account is given of the Kittiwake Gull (*Rissa tridactyla*), of which two young birds were taken when but three or four days old and kept as pets. They ate freely of fish, but soon pined, and in two days one of them died, it being impossible to induce them to drink. The survivor was placed in a basin of salt water, hoping that a bath might prove beneficial. To the surprise of all, he instantly began to drink, swallowing the sea-water with evident satisfaction. After this the pet gave no trouble; he had his dish of sea-water constantly within reach, and throve finely, but could never be induced to partake of fresh water. This seems to settle the often-raised question as to how sea birds slake their thirst, at least so far as the Kittiwake is concerned, which would have perished had it not been furnished with sea-water. Very suggestive also are the remarks about Wilson's Petrel (*Oceanites oceanicus*), the breeding of which seems still to remain a mystery. While a common summer bird off our coast from Virginia to the Gulf of St. Lawrence, its breeding grounds still remain to be discovered. Mr. Brewster found on dissecting specimens shot at various times between June 17 and July 25 no evidence that the species was breeding. He therefore hazards the conjecture that "Wilson's Petrel breeds in winter or early spring in tropical or subtropical regions, and visits the coast of the northeastern United States *only in the interim between one breeding season and the next*," and gives his reasons at length for this opinion. He also extends the same generalization to the Shearwaters (*Puffinus major* and *P. fuliginosus*), both of which occur off our northern coast *in summer*, but have never been found breeding. In this opinion he is confirmed by the experience of Capt. J. W. Collins, as detailed in 'The Auk' (I, p. 237), and in the paper which forms the subject of the notice which next follows. As already intimated, the notes on the Common Puffin and the Guillemots are extended and replete with interest. In fact, few papers of so great importance relating to our birds have recently appeared, the matter being not only fresh and original, but attractively presented.—J. A. A.

Collins's Notes on the Sea Birds of the Fishing Banks.*—As is well-known, various sea-birds have long been used by fishermen for fish bait,

* Notes on the Habits and Methods of Capture of various species of Sea Birds that occur on the Fishing Banks off the Eastern Coast of North America, and which are used as bait for catching Codfish by New England Fishermen. By Capt. J. W. Collins. Ann. Rep. of the Comm. of Fish and Fisheries for 1882, pp. 311-338, pl. i. (Separates issued August, 1884.)

but just what species are used, how they are obtained, and to what extent employed, are matters respecting which we have hitherto had very little definite information. Captain Collins's 'Notes' are therefore particularly welcome, not only for the information they convey on these points, but also respecting the relative abundance of the sea birds met with on the Fishing Banks, their habits, seasons of occurrence, and migrations. It appears that any species that can be easily captured by the fishermen is used as bait, the larger kinds, as the Shearwaters, Gulls, and Jægers being preferred. The species captured in largest numbers is the Greater Shearwater (*Puffinus major*), of which hundreds are sometimes taken in a few hours. Nearly half of the paper is devoted to a very interesting and detailed account of the habits of this bird and the manner of its capture, the latter being illustrated with a plate entitled 'Hag fishing.'—J. A. A.

Stejneger on Trinomials in American Ornithology.*—The object here in view seems to be to show (1) that trinomials "are neither an American invention nor were they first applied in America to the extent which they are now occupying in this country," and (2) that "the trinomials of present American ornithology can with great propriety be said to date from 1858" (rather than later), when a small number were employed by Professor Baird in his great work on North American birds, to which epoch-making volume is attributed the origin of the 'American School.' In regard to the first proposition, it is claimed that the Swedish ornithologist, Carl Sundevall, is the "father of modern trinomialism in ornithology," who in 1840 began to "treat systematically the ill-defined species as geographical varieties, which he provided with a third name in addition to the specific appellation." "He was followed closely by Herman Schlegel, who, in 1844, applied the system to all the European birds in his 'Revue critique des oiseaux d'Europe;'" who not only adopted the subspecific name without the intervention of any connecting word or letter, but also acknowledged the applicability of the law of priority to trinomials. "For every 18 binomials this first trinomialistic list [Schlegel's] of the birds of Europe contained 1 trinomial." He was soon also followed more or less freely by other prominent European ornithologists. J. H. Blasius, in 1861, in a list of European birds, designated 92 subspecies by trinomials or quadrinomials; "in other words, for every $5\frac{3}{8}$ binomials we find 1 tri- or quadrinomial." In 1871 Alph. Dubois, in his 'Conspectus systematicus et geographicus Avium Europæarum,' used trinomials for the designation of 'climatic varieties,' of which there were 125 in a list of 475 species.

As regards the second proposition, attention is called to the fact that Cassin employed, as early as 1854, trinomials for the geographical races of *Bubo virginianus;* that Baird sparingly made use of trinomials in similar cases in 1858, and quite frequently in 1864-1866; that Bryant, in 1865 and 1866, used them freely, and fairly committed himself to their adoption

* On the Use of Trinomials in American Ornithology. By Leonhard Stejneger, Proc. U. S. Nat. Mus., 1884, pp. 70-81, July 1, 1884. Vol VII

for certain West Indian birds. They also occasionally crept into Mr. Lawrence's papers in 1871. At this time (1864-1871), as Dr. Stejneger observes, "trinomials were in the air infecting all." In 1872 the system of trinomials for geographical races, or subspecies, may be said, however, to have been first formally avowed and adopted, having been used systematically by Coues, Ridgway, and Allen, in papers or works published during that year—by the latter in a paper* published in July, by Dr. Coues in his 'Key,' published in October, and by Mr. Ridgway in a paper† published in December. They had also been adopted by the authors of the 'History of North American Birds,' the greater part of the first volume of which was put in type during 1872,‡ although the work was not published till January, 1874.

Dr. Stejneger also calls attention to the chief objection to trinomialism which has thus far been raised, namely its liability to abuse by indiscreet authors, and arrives at the conclusion that this danger is not very formidable; it being found by actual count that as regards North American birds described between 1871 and 1881, that "the percentage of the untenable trinomials is vastly smaller than that of the binomials," and that if trinomials had not come into use several of the forms described under trinomials would have entered the list of synonyms as pure binomials.

Finally Dr. Stejneger takes up and very ably answers the questions, "(1) Is it necessary to recognize those slight differences which are seen in the so-called local races? (2) Is it necessary to have them designated by a separate name? (3) Why is the trinomial designation to be preferred?" Those who may still have doubts on these points would do well to carefully weigh the replies Dr. Stejneger gives to these questions.—J. A. A.

Baird, Brewer, and Ridgway's Water Birds of North America.§—The publication of the long-looked-for 'Water Birds of North America,' by Baird, Brewer, and Ridgway, is *the* event of the year 1884 in the history of North American ornithology. Beyond the necessarily brief treatment bestowed upon the group by Dr. Coues in the two editions of his 'Key,' the Water Birds of North America, while by no means wholly neglected, especially as regards their nomenclature and classification, have not as a

* 'Orn. Reconn.' etc., in Bull. M. C. Zoöl., III, pp. 113-183, July, 1882. See especially p. 119, where the use of varietal names is formally advocated, and 'this method' stated to be 'already in more or less common use.'

† 'On the Relation between Color and Geographical Distribution in Birds,' etc., in Am. Journ. Sci. and Arts (3) IV, pp. 454 *et seq.*, Dec., 1872.

‡ *Cf.* Am. Journ. Sci. and Arts (3) IV, p. 457.

§ Memoirs of the Museum of Comparative Zoölogy at Harvard College, Vols. XII and XIII. The Water Birds of North America. By S. F. Baird, T. M. Brewer, and R. Ridgway. Issued in continuation of the publications of the Geological Survey of California. J. D. Whitney, State Geologist: Boston. Little, Brown, and Company, 1884. 2 vols. 4to. with numerous illustrations in the text. (Vol. I, pp. i-ix, 1-537, June, 1884; Vol. II, pp. i-vi, 1-552, August, 1884.) Issued with both plain and colored plates.

whole been the subject of detailed systematic treatment since the publication of Baird's 'Report' in 1858. In this work the treatment was purely technical, so that we must go back to Audubon before we find the same general handling of the subject from the biographical standpoint. Therefore the need of a work of the character and scope of the present one has long been felt, and impatiently awaited. Its delay, as is well known, has been due to the difficulty of securing a publisher who would undertake the pecuniary risk of so expensive an undertaking. Consequently ornithologists have great reason to be grateful to Professor J. D. Whitney, through whose interest in the work, and the generous coöperation of Mr. Alexander Agassiz, is due its final appearance. Through these combined influences the work, from the bibliographical point of view, has rather complex relations. Primarily it forms volumes XII and XIII of the 'Memoirs' of the Museum of Comparative Zoölogy. It also is complementary to the 'Land Birds' of the California Geological Survey, Professor J. D. Whitney, State Geologist, and to 'A History of North American Birds: Land Birds,' by the authors of the present volumes, of which work it is virtually a continuation. It has also its own separate title of 'The Water Birds of North America.' Professor Whitney, in the 'Introduction' to the present work, explains in detail this complicated relationship, and the circumstances to which it is due. As regards the method of illustration, the work is uniform with the 'Land Birds' of the California Survey, the numerous wood-cuts being inserted in the text, and colored by hand (in the colored copies), instead of being in part grouped in plates and colored by chromo-lithography, as was the case in the three volumes of the 'History of North American Birds.'

In regard to the text of the 'Water Birds,' the technical part, although originally written some years since, has been brought down with the fullest detail, and with even more than Mr. Ridgway's usual care, to the date of printing; the biographical part remains as left by Dr. Brewer at the time of his death in January, 1880, and is therefore practically nearly five years behind the date of publication. This is certainly unfortunate, in view of the recent rapid increase of our knowledge of the habits and distribution of our water birds, particularly the marine species, but under the circumstances of publication this appears to have been nearly unavoidable.

The water birds are divided into, first 'A. Waders,' and 'B. Swimmers,' "for the convenience of the student," and tentatively further subdivided into the following nine 'orders': I, Herodiones; II, Limicolæ; III, Alectorides; IV, Phœnicopteri; V, Anseres; VI, Steganopodes; VII, Longipennes; VIII, Tubinares; X, Pygopodes. Not only are the characters of the nigher groups quite fully given, but there are analytical keys to the minor groups, as well as to the species and subspecies. The diagnoses and descriptive matter are ample; extremes and averages of measurements of often large series of specimens are usually given, and also special attention to the matter of individual as well as geographical variation. In short, it is sufficient to say that the technical matter, though condensed, is admirably presented.

Perhaps the most striking, and to the lay student the most unlooked for and unwelcome feature of the work, are the numerous changes in nomenclature as compared with Mr. Ridgway's 'Nomenclature of North American Birds,' published in 1881, and the numerous additions to the list of previously recognized North American species. The additions, 23 in number, include, besides several Old World species, some half a score described within the last two years. The additions are:—

Ardea wardi.
Ægialitis mongolica.
Eurynorhynchus pygmæus.
Rallus beldingi.
Fulica atra.
Olor cygnus.
Fuligula rufina.
Mergellus albellus.*
Pelecanus (fuscus?) californicus.†
Phalacrocorax dilophus albociliatus.
Phalacrocorax pelagicus robustus.†
Larus kumlieni.
Larus nelsoni.
Larus schistisagus.
Larus minutus.
Xema furcata.
Diomedea exulans.
Diomedea melanophrys.
Puffinus borealis.
Œstrelata fisheri.
Œstrelata gularis.
Cepphus grylle.‡
Cepphus motzfeldi.

The principal changes in nomenclature are indicated below, the left hand series being the names used in the 'Nomenclature' of 1881, the right hand series those adopted in the 'Water Birds.' In many cases the changes have been for some time foreseen as inevitable; in others their necessity has only recently become evident; a few are here made for the first time. The *bouleversement* is most radical among the Loons, Grebes, and Auks, where the subversions in several cases amount to the actual transposition of names from one group to another. While such transpositions are to be deplored, the future stability of nomenclature of course demands their adoption when shown to be inevitably necessary.

'NOMENCLATURE.'	'WATER BIRDS.'
Herodias alba egretta.	H. egretta.
Vanellus cristatus.	V. capella.
Charadrius pluvialis.	C. apricarius.
Ægialitis cantiaca nivosa.	Æ. alexandrina nivosa.
Gallinago media wilsoni.	G. wilsoni.
Gallinago media.	G. cœlestis.
Totanus glottis.	T. nebularius.
Lobipes hyperboreus.	L. lobatus.
Grus fratercula.	G. canadensis.
" canadensis.	G. mexicanus.

* Added in view of its probable future occurence.
† Subsp. nov.
‡ Not *Uria grylle* of the Check List, which is now *Cepphus mandti*.

'NOMENCLATURE.'	'WATER BIRDS.'
Olor americanus.	O. columbianus.
Bernicla leucopsis.	Branta leucopsis.
Harelda glacialis.	H. hyemalis.
Polysticta stelleri.	Eniconetta stelleri.
Lampronetta fischeri.	Arctonetta fischeri.
Somateria mollissima dresseri.	S. dresseri.
Tachypetes aquila.	Fregata aquila.
Phalacrocorax violaceus.	P. pelagicus.
P. violaceus resplendens.	P. pelagicus resplendens.
Phalacrocorax bicristatus.	P. urile.
Rissa tridactyla kotzebuei.	R. tridactyla pollicaris.
Sterna regia.	S. maxima.
Sterna cantiaca acuflavida.	S. sandvicensis acuflavida.
Sterna fluviatilis.	S. hirundo.
Sterna macrura.	S. paradisæa.
Hydrochelidon lariformis surinamensis.	H. nigra surinamensis.
Stercorarius buffoni.	S. longicaudatus.
Diomedea brachyura.	D. albatrus.
Diomedea culminata.	Thalassogeron culminatus.
Fulmarus glacialis pacificus.	F. glacialis glupischa.
Priocella tenuirostris.	P. glacialoides.
Priofinus melanurus.	P. cinereus.
Puffinus fuliginosus.	P. stricklandi.*
Œstrelata bulweri.	Bulweria bulweri.
Fregetta grallaria.	Cymodroma † grailaria.
Podiceps holbœlli.	Colymbus holbœlli.
Tachybaptes dominicus.	Podiceps dominicus.
Colymbus torquatus.	Urinator immer.
Colymbus arcticus.	Urinator arcticus.
Colymbus adamsi.	Urinator adamsi.
Colymbus pacificus.	Urinator pacificus.
Colymbus septentrionalis.	Urinator lumme.
Alca impennis.	Plautus impennis.
Utamania torda.	Alca torda.
Lomvia troile.	Uria troile.
Lomvia troile californica.	Uria troile californica.
Lomvia arra.	Uria lomvia arra.
Lomvia arra brünnichi.	Uria lomvia.
Uria grylle.	Cepphus mandtii.
Uria columba.	Cepphus columba.
Uria carbo.	Cepphus carbo.
Simorhynchus pygmæus.	Phaleris pygmæus.
Phaleris psittacula.	Cyclorrhynchus psittacula.

* Nom. sp. nov.
† Gen. nov.

The reductions from the list of 1881 number only two, namely: *Chen albatus* of the 'Nomenclature' is now made a synonym of *Chen hyperboreus*, and *Brachyrhamphus brachypterus* is similarly referred to *Synthliborhamphus antiquus*.—J. A. A.

Coues and Prentiss's Avifauna Columbiana.—The title* of this interesting brochure, although explicit, fails to fully imply the scope of the work, 4 pages of which are devoted to the 'Literature of the Subject,' 17 to the 'Location and Topography of the District,' 5 to the 'General Character of the Avifauna,' 78 to the 'Annotated List of the Birds,' 8 to a 'Summary and Recapitulation,' and 3 to the 'Game Laws of the District,' following which is a full index. The 100 woodcuts, illustrating structural characters of the birds, are mainly from previous publications by the senior author. Three of the maps—colored, and drawn to the scale of 3 5·9 inches to the mile—illustrate minutely the topography of the three regions into which the District is divided, while the fourth is a general map of the District and immediately contiguous country.

The original 'List of the Birds of the District of Columbia,' etc., published in 1862, contained 226 species, only one of which proves to have been included erroneously. The additions made in the twenty-two years which have intervened number 23, making the total number of the present list 248. In rewriting the list the authors, besides incorporating the additional species, have expanded their annotations about four-fold, through fuller notices of the habits of the species, and in noting the changes in the bird-fauna resulting from the growth of a large city. The subject in general is treated not only with great fulness, but is very attractively set forth, and in general plan forms an excellent model of what a faunal list should be. The preliminary matter includes an account of 'Rail Shooting on the Anacostia River Marshes,' illustrated with two plates. In the 'Recapitulation,' the species are arranged in five categories, from which it appears that 47 are permanent residents, 46 winter residents, and 66 summer visitors, while 49 occur only as spring and autumn migrants, and 40 as very rare or accidental visitors.—J. A. A.

Ridgway on Rare Neotropical Birds.†—The species considered are *Harporhynchus ocellatus* Scl., *Pyranga erythrocephalus* (Sw.), *Zonotrichia quinquestriata* Scl. & Salv., *Contopus ochraceus* Scl. & Salv., and *Panyptila cayennensis* (Gm.), about which there are brief remarks respecting their affinities. Mr. Ridgway is inclined to restrict the genus

* Bulletin of the United States National Museum, No. 26. Avifauna Columbiana: being a list of Birds ascertained to inhabit the District of Columbia, with the times of arrival and departure of such as are non-residents, and brief notices of habits, etc. The Second Edition, revised to date and entirely rewritten. By Elliott Coues, M. D., Ph.D., Professor of Anatomy in the National Medical College, etc., and D. Webster Prentiss, A.M., M.D., Professor of Materia Medica and Therapeutics in the National Medical College, etc. Washington: Government Printing Office, 1883. 8vo., pp. 133, 100 woodcuts, frontispiece, and 4 folded maps.

† Notes upon some Rare Species of Neotropical Birds. By Robert Ridgway, Curator Department of Birds, United States National Museum. Ibis, Oct. 1883, pp. 399-401.

Zonotrichia to a "very well circumscribed group of purely Nearctic species," and to exclude various Neotropical forms which have been referred to it.—J. A. A.

Ridgway on the Pied Wagtails of Eastern Asia.*—Mr. Ridgway believes that Dr. Stejneger's series of five skins collected at Bering Island and in Kamtchatka prove conclusively that it is either only the adult male in summer of *Motacilla amurensis* which has the "back black, while the fully adult female is indistinguishable from *M. ocularis*, or else that these two birds are identical;" *M. amurensis* being the adult male and *M. ocularis* the adult female, or perhaps the winter plumage of both sexes. Mr. Ridgway further suggests that Mr. Seebohm's *M. blakistoni* may be merely the adult male of '*M. amurensis*.'—J. A. A.

Lawrence on New Species of American Birds.†—The species here described are 1. *Chrysotis canifrons*, from the Island of Aruba, West Indies; 2. *Formicivora griseigula*, from British Guiana; and 3. *Spermophila parva*, from Tehuantepec City, Mexico.—J. A. A.

Jouy on Birds collected in Japan.‡—Mr. Jouy, in a paper of nearly fifty pages, presents his observations made partly at Subashiri, twenty-five miles due west from Yokohama, on the eastern slope of Fuji-Yama, the highest mountain in Japan, and partly near Omachi, at the base of the Tate-Yama Mountains, about one hundred and thirty miles northwest from Yokohama. July and part of June were spent at Fuji-Yama; a short time was passed at Chiusenji Lake, about the beginning of September; while the latter part of this month, October, November, and part of December were devoted to the Tate-Yama. Very full and interesting field-notes are given on about one hundred species, with bibliographical references, and often descriptions of nests and eggs, and previously undescribed immature phases of plumage. Mr. Jouy has evidently made good use of his excellent opportunities, and the results of his work are well presented. As already noted (*anteà*, p. 108), his collections were made for the National Museum.—J. A. A.

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* On the Probable Identity of Motacilla ocularis Swinhoe and M. amurensis Seebohm, with Remarks on an Allied supposed Species, M. blakistoni Seebohm. By Robert Ridgway. Proc. U. S. Nat. Mus., 1883, pp. 144-147. Oct. 5, 1883.

† Descriptions of New Species of Birds of the Genera Chrysotis, Formicivora, and Spermophila. By George N. Lawrence. Ann. New York Acad. Sci., Vol. II, No. 12. pp. 381-383, 1883.

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GENERAL NOTES.

Another Kirtland's Warbler from Michigan.—The National Museum has recently acquired a fully adult male of this species which on the collector's label bears the following legend: "No 111, collection of N. Y. Green. . . . *Dendræca pinus*. Pine-creeping Warbler. . . . Battle Creek, Mich. . . . May 11, 1883." The specimen, which was generously presented to the National Museum by Mr. J. H. Batty, of Parkville, L. I., is in the highest state of plumage of the fully adult male, and has the yellow of the under parts entirely free from markings on the jugulum, which are present in the type (an immature male changing to spring plumage) and in two of the three adult females in the collection.—ROBERT RIDGWAY, *Washington, D. C.*

Geothlypis trichas wintering in Eastern Massachusetts.—I have recently examined a male Maryland Yellow-throat brought me by a neighbor, which was caught by his cat in the latter part of January, 1884. He was unable to give the exact date, but is positive it was later than the middle of the month. The bird was in fine plumage and good condition, evidently not prevented by disease or injury from accompanying its mates southward at the usual season. As I can find no similar record, I thought it might be well to make a note of the above.— F. C. BROWNE, *Framingham, Mass.*

The Yellow-breasted Chat and Summer Redbird in Canada.—On the 16th of May, 1884, I found the dead body of an olive-backed bird lying on the ground. The maggots fell from it as I took it up, but it was still in condition to show that had I found it a few days sooner I would have added to my collection a perfect specimen of the Yellow-breasted Chat (*Icteria virens*). The bird had evidently been killed by flying against the telegraph wires which pass near where it was found.

Ten days later, when visiting Mr. Dickson, station master of the Grand Trunk Railway at Waterdown, he pointed out to me an old unused mill-race, grown up with briars and brambles, where the day previous he had seen a pair of Chats mated. Mr. Dickson was collecting at the time, and was surprised at their suddenly appearing within ten feet of him, but on his trying to get to a safer shooting distance they disappeared in the thicket and did not again become visible, though they kept continually scolding at him. These are the only records I have of this species being noticed in Canada.

On the mountain above the water work's reservoir is a clump of mixed bush near which lives an old man who knows the birds thoroughly. He has often told me of a season long ago when a number of red birds bred there which had not the black wings and tail of the Scarlet Tanager. I have looked at this bush with interest ever since, and on May 20, this year, as I was scrutinizing a group of Tanagers leisurely sunning themselves among the topmost branches of a tall elm, I noticed one different in plumage from the others. In bringing it down I was greatly pleased to find a fine female of the Summer Redbird (*Pyranga æstiva*), this being the first record of the species for Canada, so far as I am aware.

I think I have also seen the Connecticut Warbler but without actual measurement it is difficult to distinguish between it and the Mourning Warbler.—THOMAS MCILWRAITH, *Hamilton, Ontario.*

Breeding of Passerculus princeps on Sable Island.—In the last number of 'The Auk' Mr. Ridgway stated: "The National Museum possesses a considerable series of eggs labelled '*Passerculus savana*, Sable Island, Nova Scotia. July, 1862; J. P. Dodd.' which are uniformly so much larger than those of the Savannah Sparrow as to strongly suggest the probability that they may be in reality those of the Ipswich Sparrow. At any rate the matter is worth investigating, and it is hoped that some reader of 'The Auk' may be able to decide the question" (pp. 292-293). Acting upon the above suggestion I immediately wrote to the Rev. W. A. Des-Brisay, a resident missionary of Sable Island, requesting him to send me a specimen of the common 'Gray Bird' of the Island. This he was kind enough to do, and the specimen, in confirmation of Mr. Ridgway's suspicion, proves to be an unquestionable Ipswich Sparrow.—C. HART MERRIAM, *Locust Grove, N. Y.*

The Cardinal Grosbeak breeding in Brooklyn, N. Y.—June 8, 1884, I found *Cardinalis virginianus* breeding in Prospect Park, Brooklyn. The nest, which contained three eggs, was very loosely constructed, principally of the long, slender leaves of various aquatic plants, and was suspended in a mass of vines drooping over the bed of a small brook.—E. T. ADNEY, *29 West 36th St., New York City.*

The Orchard Oriole (*Icterus spurius*) in Western Vermont.—The occurrence of birds beyond their natural or normal habitat is always of interest, since from a study of these occurrences and their causes many facts in regard to geographical distribution are brought out. On June 1, 1883, I had the pleasure of taking two specimens of that rather southern species, the Orchard Oriole (*Icterus spurius*), at Middlebury, Vermont. They were taken on the campus of Middlebury College, and are now in the College Museum. They were both males, one being in the perfect plumage of the adult, the other in the immature dress of the young bird. When shot they were skipping about in the branches of a maple, and a diligent search failed to reveal others of the species. So far as I am able to ascertain, this is the first record of the occurrence of this species in this State.—F. H. KNOWLTON, *National Museum, Washington, D. C.*

The Crow (*Corvus frugivorus*) **as a Fisherman.** — I am courteously permitted by Mr. L. I. Flower of Clifton, N. B., to publish the following note of an interesting incident which came under his observation.

"A few years since, while crossing the Washademock Lake, I noticed a Crow flying close to the surface at a spot where the water is very shoal. Suddenly, when but a short distance from my boat, the Crow thrust his claw down into the water and drew to the surface what I afterward discovered was a fish of about half a pound weight, and then seizing it with his bill, by aid of 'tooth and nail' succeeded in drawing it out of the water and carrying it to an adjacent rock, the fish all the while struggling hard to get free."— MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Odd Nesting-site of a Great-crested Flycatcher.—In 1875, in either the latter part of May or early in June, at Chesnut Hill, a suburb of Philadelphia, but about eight miles northwest of the city proper, a pair of Great-crested Flycatchers (*Myiarchus crinitus*) made three attempts to build a nest in the gutter pipe of an inhabited house. The house was of stone, with a 'French' roof covered with slate. The pipe was of tin and opened out of the gutter about six feet from a window of a boy's room. It was bent at the top at an angle of about 30° from the perpendicular, and at this bend the birds endeavored to lodge their nest. Each time the materials were washed down by rain, and the day after the third flood the birds abandoned the locality. There was not a tree on the place over ten years old, and I have never, before or since, known a Great-crested Flycatcher to establish itself within a mile of the house in question. The house was partly covered with vines, but there were none above or within five feet of the junction of gutter and pipe.—FRANK R. WELSH, *Philadelphia, Pa.*

Duck Hawks breeding in the Helderberg Mountains, New York.—Last summer I observed a pair of Duck Hawks (*Falco peregrinus nævius*) several times in the neighborhood of a high cliff in the Helderberg Mountains, about thirty miles from Albany. Thinking it probable from their actions that they had bred there, I visited the locality last April and found that they had been there some time already. Diligent search was at once commenced for the nest; during which the old birds were frequently seen, and evinced the highest degree of excitability. On the 11th of April the eyrie was discovered; the eggs, four in number, were placed upon the bare surface of a ledge in an extremely wild situation; there was no appearance of a nest, but the eggs were surrounded merely by a few bones and feathers. The birds showed the greatest anger, flying, shrieking, in circles overhead. They were not shot and probably bred elsewhere upon the mountain later on, although their second nest was not discovered. —G. A. LINTNER, *Albany, N. Y.*

Hybrid between Pediœcetes phasianellus and Cupidonia cupido.—On the 1st of February last, or about that date, a curious bird was obtained at a poulterer's shop at Brighton (in England) which had been sent over

from America with a large quantity of Grouse—viz., a hybrid between the Sharp-tailed Grouse (*Pediœcetes phasianellus*) and the Pinnated Grouse (*Cupidonia cupido*). The neck ruff is present, but only a quarter of an inch long; the tail, which is brown in the former species and white in the latter, is in the hybrid gray; the sides of the toes are only slightly feathered, and the general color of the plumage is intermediate between the two species. This bird, which through the kindness of Mr. Langton is now in my collection, was a male. Almost all wild hybrids are males, which doubtless arises from the more obscure plumage of the females causing them to be passed over, and this applies as much to Ducks and Finches as to Game-birds. As examples may be cited the cross between a Pochard (*Fuligula ferina*) and a Nyroca (*F. nyroca*), the Linnet (*Linnota cannabina*) cum Greenfinch (*L. chloris*) cross, and the Blackcock (*Tetrao tetrix*) cum Capercaillie (*T. urogallus*), which are almost always all males, though females are picked up now and then. Of the Linnet cum Greenfinch cross, although I have examined many males, I have only seen two females, and I imagine that the experience of other observers in England would be the same.

That no doubt should exist about the hybrid Grouse, it was submitted to Dr. Elliott Coues, who confirmed its origin, adding that he had never seen a specimen before, though he knew of the existence of one, recorded in the 'Nuttall Bulletin' a few years ago.*—J. H. GURNEY, JUN., *Northrepps, Norwich, England.*

Notes on Lagopus leucurus.—As Dr. Stejneger, in an article in a recent number of the 'American Naturalist,' on the moulting of toe nails in the genus *Lagopus*, makes no mention of *L. leucurus*, the following may be of interest.

An average of the nails of 22 winter (November to March) specimens gives 7-10-12-10 mm. for the 1st, 2d, 3d, and 4th toes respectively, and of 6 summer specimens (June and August) gives 6-8-9-8 mm. The extremes are an August bird, measuring 5-7-8-8 mm. and a February bird, showing 8-12-13-11 mm. with claws excessively curved. At first it seemed reasonable to suppose the shorter summer nails were due to wear on rocks, but one August bird showed the moult to be but partially completed, some of the nails falling off in my hands, and others clinging with but a slight hold. One bird showed a formula as follows: 9-12-11-11 mm., the middle claw being perfect and shorter than the 2d or 4th.

I failed to detect any positive difference between the summer plumages of male and female, unless it is in the female being more ochraceous. The fineness of the waving and mottling is variable in both sexes.

The shafts of the primaries are pure white, or white below and either black or dark colored above. The last form is only found in winter birds, and in every case of dark—not black—primary shafts, the webs were spotted with dusky.

* [By Mr. Brewster, in Vol. II, 1877, pp. 66-68.]

Seven young birds in August had the 1st and 2d primaries more or less white, and the last four pure white. The other primaries were plumbeous, mottled on web-margins with ochraceous.

The tails of the half-grown birds were banded and mottled with brown like the back; showing a bleaching to white along the centres of the outer feathers. One bird—an adult male, taken the last of June—has a black centre spot at the end of an outer tail feather.

During winter the sexes keep in separate flocks. At least so I judge from noting that where two or more birds were taken from a flock, all were of the same sex.—FRANK M. DREW, *Bunker Hill, Ill.*

Eskimo Curlew at San Diego, Cal.—One individual of this species (*Numenius borealis*) was attracted by my decoys and shot, September, 1883. The same day I shot a Hudsonian Curlew from out of a mixed flock of shore birds. Both were new to me at the time, although since the Hudsonian has been seen quite frequently, and was in April, this year, abundant in good-sized flocks, feeding on a grub-pest that pervaded the mesa slopes adjoining the Bay. But this single record of the Eskimo Curlew is, as far as I can learn, the first for this southern coast. The bird was in good plumage, but apparently ill at ease and flying alone — perhaps a straggler which came with the early flocks of the Long-billed Curlew and Willet.—GODFREY HOLTERHOFF, *National City, Cal.*

Nesting of the Little Black Rail in Connecticut.—On the evening of the 13th of July, 1876, one of my neighbors called in to ask me if I cared for a set of Rail's eggs. I did not care very much, as Virginia Rails are very common here, but on inquiry as to what variety he had found, he replied that he could not tell. He had been mowing at the Cove meadows and his scythe had decapitated a Rail sitting on her nest of nine eggs, and he had placed the remains of the bird and eggs—some of them broken—aside for me. I was greatly surprised when I beheld what he had brought me, so totally unlike were they to anything I had ever seen, and it was only after considerable research that I discovered that I possessed something very rare—eggs of the Little Black Rail (*Porzana jamaicensis*). Some of these specimens I sent to my friend, Mr. H. A. Purdie of Boston, for confirmation of their identity, and an account of the find was inserted in the 'Bulletin' of January, 1877. The other specimens I retained in my collection, with no anticipation that opportunity would ever recur for duplicating them. But on the 6th of June, 1884, I made a trip to 'Great Island'—a tract of salt meadow near the mouth of the Connecticut River, on its eastern shore—in search of nests of *Ammodromi* which abound in that locality. During a very successful hunt for them I observed a tuft of green grass carefully woven and interlaced together, too artificially to be the work of nature. 'Merely another Finch's nest,' I mused, as I carefully parted the green bower overhanging it. But wasn't there an extra and audible beat to my pulse when before my astonished gaze lay three beautiful Little Black Rail's eggs? Recovering from my surprise I carefully replaced the

disarranged curtain that excluded the sun from the precious eggs, fixed some permanent ranges, and quietly departed to await the completion of the set. A week later, on the 13th of June, I again visited the nest and found therein the full complement of nine eggs.

This nest was situated about forty rods back from the shore of the river, on the moist meadow, often overflowed by the spring tides. The particular spot had not been mowed for several years, and the new grass, springing up through the old, dry, accumulated growths of previous years, was thick, short, and not over eight or ten inches in height—a fine place for Rails to glide unseen among its intricacies. The nest after the complement of eggs were deposited in it resembled that of the common Meadow Lark, it consisting of fine meadow grasses loosely put together, with a covering of the standing grasses woven over it and a passage and entrance at one side. The eggs also have a general resemblance to the Lark's, but differ in several points, being smaller and of a duller white, without the gloss usual on the Lark's. The spots are also smaller than the ordinary markings on the Lark's eggs. In size I find them as follows: No 1, 1.04 × .81 inches; No. 2, 1.04 × .81; No. 3, 1.04 × .79; Nos. 4 and 5, 1.00 × .80; No. 6, 1.00 × .81; No. 7, 1.02 × .80; No. 8, .98 × 81; No. 9, .97 × .80.

Compared with other Rail's eggs, they most resemble in general color those of the Virginia Rail, but the markings are much smaller as well as much more numerous; two of the specimens have, however, large spots, like Virginia Rail's, at the large end; but in the majority the spots are small and abundant. The difference between the two ends, if any, is very slight, the eggs being much less elongated than those of any other Rail I have seen.

I found a Lark's nest the same day within two rods of this Rail's nest, and not very far from it a Virginia Rail's nest. Taking one of the nine eggs therein for comparison, I find it measures 1.30 × .98 inches; rather larger than the average of the species.

I must add an account of my efforts to secure the Little Black Rail with the set. I devoted the whole day to this special end, and visited the nest about every half hour through the day, approaching it with every possible caution, and having a little tuft of cotton directly over the nest to indicate the exact spot; but although I tried it from every quarter with the utmost diligence and watchfulness, I was never able to obtain the slightest glimpse of the bird—never perceived the slightest quiver of the surrounding grass to mark her movements as she glided away, and yet I found the eggs warm every time, indicating that she had but just left them.—JOHN N. CLARK, *Saybrook, Ct.*

The Widgeon in Maine in February.—On the 20th of February last Mr. T. B. Davis, the gunsmith of this city, showed me a recently killed male specimen of the Widgeon (*Mareca americana*), which had been forwarded to him for preservation by a sportsman of Freeport, Maine. The bird had been dead several days. February, 1884, will be remembered as

a month of mild and rainy weather. It appears probable, therefore, that this bird should be regarded as an early migrant rather than as a winter resident.

I have looked through the records in vain for specific notice of the Widgeon's occurrence in New England during winter. Dr. Coues, however, both in his 'List of New England Birds' and in 'New England Bird Life,' states, in general terms, that it is to be found at that season.— NATHAN CLIFFORD BROWN, *Portland, Me.*

Pelicans on the Move.— Mr. Wm. Smith, who resides at Burlington Beach, at the west end of Lake Ontario, and who is making observations for the Migration Committee of the A. O. U., reports his station being visited by five White Pelicans on March 13. The wind was blowing strong from the southeast, and the birds came up the lake before it, flying heavily, and passing his house alighted on the ice on the bay. They seemed very tired, and at once squatted flat, with the head and neck drawn in and resting between the shoulders, in which position they might readily have been mistaken for chunks of ice. Mr. Smith examined them closely with his glass at a distance of 300 to 400 yards and then tried to reach them with the rifle. When the ball landed among them they jumped straight up and moved 100 yards farther off. They were very unwilling to move, and gave opportunity for two more long but unsuccessful shots, and finally went off east down the lake again, flying low and hugging the shore for shelter from the wind. The last time this species visited the Bay was in the month of May, and they stayed fishing around the inlet for a day or two, and two of their number were shot by a fisherman; the other two then made off. — T. MCILWRAITH, *Hamilton, Ontario.*

Capture of Megalestris skua off the Coast of Cape Cod, Mass. — I shot a specimen of the Skua Gull, on Jaeger, September 10, 1884, about eight miles east of Polluck Rip, as I was on a return trip from the fishing grounds. I had been tolling the Shearwaters for some time with livers taken from our freshly caught codfish, in hopes to attract the attention of other birds, and at the time had at least forty of the Greater and Sooty Shearwaters following; but the day was too hot and still for the birds to be actively flying about, and this was the only new or different kind called in; but I felt more than paid for the trouble, and proud of the capture, which I have carefully mounted with a view to add it to my collection in the State House, Topeka, Kansas. I did not observe the bird until it was well astern, and for fear of loosing it did not wait to note its flight and actions but dropped it on sight.

The specimen was a female, and presents the following characters: Length, 22.00 in., stretch of wing, 54.00; wing, 14.75; tail, 6.00; tarsus 2.40; middle toe and claw, 1.80; bill, 1.95; depth at base, .75; plate or cere, 1.03. Weight, 2 lbs. 11 oz. Color dark sooty plumbeous or slate, with pale chestnut markings on neck and back, which gives that portion a dull rusty look. Tail and remiges white at base, the white extend-

ing out on the latter from ¼ to ½ their length. (I cannot give the exact distances, as the quills are in moult and not full grown.) Shafts of both white to near tips. The two central tail-feathers are not longer than the other tail-feathers.—N. S. Goss, *Topeka, Kan.*

Brachyrhamphus hypoleucus off the Coast of Southern California.—On a return trip from the Coronados Isles to San Diego, California, May 20, 1884, when about five miles out to sea, and a little north of the Mexican boundary line, I shot a pair of Zantus's Guillemots. I have the birds in my collection. Notes from 'Catalogue and Register,' entered from memoranda taken at the time of killing:—

Sex.	*Length.*	*Alar extent.*	*Wing.*	*Tail.*	*Tarsus.*	*Bill.*
♂	9.60	16.00	4.65		0.95	0.75
♀	10.10	16.35	4.75		0.95	0.80

Depth of bill at base, .23; width, .20; gape, ♂, 1.30, ♀, 140. Iris dark brown; bill black with sides of under mandible at base pale bluish; inside of legs, tops of feet and webs light blue; outside of legs, bottoms of feet and webs dusky; claws black; the testicles a little larger than swollen kernels of barley; no signs of the enlargement of any of the eggs in the ovary. On the way up I saw three others but was unable to approach near enough for a shot.

The birds closely resemble *B. marmoratus* in winter dress, and, like them, prefer to escape by diving and *flying* under the water, but when hard pressed more readily take wing. This I account for by their legs being longer, which enables them to spring at a bound clear of the water. —N. S. Goss, *Topeka, Kan.*

'Avifauna Columbiana'—a Protest.—Coues and Prentiss's late 'Avifauna Columbiana,'* while bearing the seal and token of its authorship in the clear and woodsy style of the notes, that so often give us bright glimpses of the life history of our birds, as well as in the arrangement of the scientific and technical matter, is yet disappointing in some regards, owing to the fact that the authors did not take pains enough to bring their work up to date, or to revise by recent observation the work of twenty-one years ago.

As it stands, the list is misleading in some of its statements, and does not thoroughly represent the recent progress of ornithology in the District of Columbia. In their preface the authors refer with justifiable pride to the first edition, prepared by them while yet in college, as standing "the test of time better than boys' work generally does." In their present edition "there has been found little to correct," "and not much to add, of the authors' own knowledge, because they have paid little attention to the subject during the intervening years. They have, however, *entirely recast*

* Avifauna Columbiana, by Drs. E. Coues and D. W. Prentiss, a revised edition of their 'List of the Birds of the District of Columbia,' published in the 'Smithsonian Report' for 1861.

the article," and "*embodied the additions to the list made meanwhile, by others.*" It would seem, though, that but two or three of the numerous working ornithologists of the District have been consulted, and these rather for notes on a few specified species than for general information.

As a result, while they add eight species to Jouy's list (Catalogue of the Birds of the District of Columbia, by P. L. Jouy, 1877, which added 16 to Coues and Prentiss's list of 1862), they omit five more, viz.: Sanderling, *Calidris arenaria* (L.) Ill.; Yellow Rail, *Porzana noveboracensis* (Gmel.) Bd.; Sawwhet Owl, *Nyctale acadica* (Gmel.) Bp.; Turnstone, *Strepsilas interpres* (L.) Ill.; and American Pelican, *Pelecanus erythrorhynchus* Gmel.* This does not include two, *Melospiza lincolni* (Aud.) Bd. and *Aegialites melodus circumcinctus* Ridg., which have been obtained since 'Avifauna Columbiana' went to press. Three birds mentioned as seen but not taken, but which should have been entered as taken, are *Archibuteo lagopus sancti-johannis* (Gm.) Ridg., *Porzana jamaicensis* (Gmel.), and *Falco peregrinus* (Tunst.) Cass. Many changes should be made in the remarks on the habits, arrival, and departure of birds; at least eight or ten of the birds noted as 'casual' or 'migrants' should be made winter or summer residents. Some of these inaccuracies may be owing to the changes which have occurred in the topography of the District. For instance, the formation of the great marshes in the Potomac, which is noted in the preface, may have induced the Great White Egret, Night Heron, and others to stay longer with us than they did twenty years ago. But one of the expressed objects of the present edition was to note and record these changes. In one or two instances the neglect to record notes of younger collectors almost lays their work open to more serious charges: in one case information that had been volunteered in regard to a nest and set of eggs of the Blue-winged Yellow Warbler (*Helminthophila pinus*), taken almost within the city limits, identified by Mr. R. Ridgway, and still accessible in Mr. H. Birney's collection, was entirely ignored.

Again, rather than admit a very pardonable error in their first edition, they try, by *ex post facto* evidence, to prove that Mr. P. L. Jouy and Mr. R. Ridgway were wrong in correcting said error. In their original edition they entered two species of Titmice, one *Parus carolinensis*, as 'summer resident,' and the other, *Parus atricapillus*, as 'winter resident.' In 1877, when Mr. Jouy made his 'Catalogue of the Birds of the District of Columbia,' this was the only District record of *atricapillus*, and as specimens of *carolinensis* bearing Coues and Prentiss's label of *atricapillus* are still to be seen in the Smithsonian collection, Mr. Jouy evidently thought that they had been deceived in their indentification of the bird, and struck it out. In this he was justified by the following facts: (1) While *P. carolinensis* is not a rare summer resident, it is very abundant in the winter; (2) there was not a specimen of *atricapillus* taken in the Dis-

* For full notes on these birds see 'The Pastime,' Washington, D. C. (Vol. 3, Nos. 1 and 2.)

trict extant, except those on which Coues and Prentiss had evidently entered the species, and which differed from *carolinensis* only on the label; (3) the improbability that, if such accurate observers as our authors had proved themselves to be, had ever seen an *atricapillus* they would allow a *carolinensis* afterwards to bear a wrong label.

In the severe winter of 1878-79, Mr. William Palmer obtained several specimens of *atricapillus* in the District, and now Coues and Prentiss replace the bird, remarking that "Mr. Jouy subtracted the species wrongly, as now appears" (p. 9); and again (p. 37), "in the original edition we gave this species as a winter resident, and correctly so, though the name has recently been expunged from the list by Mr. Jouy (Cat. B. of D. C., 1877.) . . . It seems that after all the two boys may have been right in stating, as they did with hesitation in 1862, that *P. carolinensis* is the ordinary summer Tit; and that specimens indistinguishable from ordinary *atricapillus* occur in winter." If any hesitation was felt by the authors in 1862, they fail to show it in their text, but entered both species on an equal footing as summer or winter resident. And they perpetuate the error in the present edition, instead of placing *atricapillus* among the rare winter stragglers, and *carolinensis* as a permanent resident.

Had the authors asked for general notes from even the few collectors they did consult, they could not have kept some of their species so rare as they did, their unique specimen of Cape May Warbler, for instance, being duplicated some years before the phenomenal season of 1882.

As purely local lists draw their chief scientific value from the record they afford of the geographical distribution of species, and their principal interest from the amount of progress in investigation they mark, it is to be hoped that the next list may be compiled by some one not interested in keeping work done nearly a quarter of a century ago from becoming antiquated, or willing to rest on ever so well earned laurels.—L. M. McCormick, *U. S. Nat. Museum, Washington, D. C.*

Notes on Certain Birds observed on a Voyage from Liverpool to Quebec in September, 1883.—About the middle of September, 1883, I left England for Canada, and when far out on the ocean, was agreeably surprised to notice several well-known species of birds flying around and alighting on the rigging of the vessel. It may interest the readers of 'The Auk' to hear something of these migrants; as although it probably often happens that birds are met with by vessels crossing the Atlantic at that period of the year, there may be no passengers on board who take sufficient interest to note the various species.

The first bird that joined company with our vessel was a common British Hawk, the Kestril (*Falco tinnunculus*); this was on September 23, when we were about 500 miles from the Irish coast, in fine and comparatively calm weather. It did not stay with us long; but on the following day, Sept. 24, several other birds appeared, viz., three Hawks, a Pied Wagtail (*Motacilla yarrelli*), and two *Saxicolæ* (probably *Saxicola œnanthe*, the Wheatear). We were now nearly a thousand miles from

the Irish coast, and the Hawks and other small birds continued to follow the vessel, one of the former catching a Stormy Petrel, which it proceeded to devour on the rigging of the ship. That evening two of the Hawks were captured by a sailor, and one of them survived the voyage. On the day after their capture I saw them, and believe they belonged to the American species of Pigeon Hawk (*Falco columbarius*). On the following day I caught two *Saxicolæ*, and as there was no chance of keeping them alive, preserved their skins, for I did not feel quite sure about the species.[*] On the 25th a third *Saxicola* appeared on the scene; and when in latitude 52° N., longitude 30° W., I noticed two more birds, the Land-Rail (*Crex pratensis*), and the Turnstone (*Strepsilas interpres*). These were particularly interesting to me, and I was able to obtain both of them soon after they alighted on the deck of the ship. The former was in fair condition; I kept it alive until the 28th, stuffing it with small scraps of raw meat, but owing to stormy weather it died on that day. The Turnstone was miserably thin and died in a few hours, though fed as the Land-Rail was. Harting, in his most useful 'Handbook of British Birds,' says of the Rallidæ: "Audubon gives two instances of this species [*i. e.*, the Carolina Crake (*Crex carolina*)] having been met with at sea, and as a proof that the short-winged Rallidæ are not incapable of sustained flight, it may be noted that during the voyage of the steamship Nova Scotia, from Liverpool to Quebec, in October, 1865, when in lat. 26° 28′ N. (?); long. 23° 24′ W., more than 500 miles from the Irish coast, a Virginian Rail (*Rallus virginianus*), came on deck and was captured. Both this and the last-named species visit the Bermudas annually, although this group of islands is distant from Cape Hatteras, the nearest point of the North American coast, about 600 miles. The well-known Corn Crake (*Crex pratensis*), too, is a summer visitant to Greenland, and has been met with on several occasions on the eastern coast of the United States."

I know nothing of the migration of the Turnstone on the American continent, but it usually arrives on the British coast in August, and last summer I shot many specimens on the 11th and subsequent days of that month, near the estuary of the River Mersey. At all times during our voyage, I noticed Gulls around the ship, and when in mid-ocean a small flock followed for several hours.—C. J. Young, *Montreal, Can.*

[* It proved to be *Saxicola œnanthe*, the Wheatear or Stonechat. These specimens, which are in fall plumage, I have had the pleasure of examining, thanks to the kindness of Mr. Young.—J. A. A.]

CORRESPONDENCE.

[*Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.*]

The Generic Name Troglodytes.

To the Editors of The Auk:—

Sirs: Is there not a universally accepted rule among scientists, that the same generic name cannot occur twice in the nomenclature of the animal kingdom? How is it, then, that in the family Simiadæ (Mammalia) there is a genus *Troglodytes*, and that in the family Troglodytidæ (Aves) the the same generic name occurs? I am merely asking for information concerning what appears to me to be a standing violation of a very necessary rule. Yours sincerely,

Ottawa, July 7, 1884. W. L. Scott.

[The name *Troglodytes* has priority in ornithology, having been proposed by Vieillot in 1807. E. Geoffroy, in 1812, adopted the same name for a genus of anthropoid apes, and its continued use in mammalogy is in violation of the very important and almost universally accepted rule that the same generic name cannot be employed twice in the same kingdom. The apes referred by Geoffroy to *Troglodytes* were long since provided with other generic names, which are employed for them by careful authors, to the exclusion of *Troglodytes* in that connection.—J. A. A.]

Strickland as an Advocate of 'Linnæus at '58.'

To the Editors of the Auk:—

Sirs: In a copy of Moehring's 'Avium Genera,' 1752, examined in the Stricklandian library in the museum of Cambridge, England, I find written on the fly-leaf the following, in the handwriting of Mr. Strickland:—

"Moehring's Genera are *not* to be adopted, being six years prior to 1758, the date of Linn. Syst. Nat. ed. 10, in which the *binomial system* was first introduced. H. E. Strickland."

This would seem to show that the person whose name is most closely connected with the Code of Nomenclature which takes Linnæus at '66 was himself a '58-er.

Mus. Cantab., 15 June, 1884. Elliott Coues.

Indian Bird Names.

To the Editors oe the Auk:—

Sirs: The July issue of 'The Auk' contains an article by Mr. W. W. Cooke, entitled 'Bird Nomenclature of the Chippewa Indians.' The article is an interesting one to ornithologists, but it possesses an equal if not a greater value to ethnologists. It is chiefly for the latter reason that I

wish to call attention to it more particularly, because it is mainly to ornithologists that the student of ethnology must look for linguistic material of this sort. Every vocabulary designed for Indian word-collecting contains long lists of names of animals, birds, and plants, for which the Indian equivalents are wanted. But while every Indian knows the names of more or less of the animals and birds about him, very few word collectors have an equal knowledge, and having obtained an Indian name for some bird pointed out or described, they often are quite at a loss to identify the bird and to render the Indian name into English; even when so rendered the inaccuracies of such lists greatly detract from their value. Hence very little material of the kind contributed by Mr. Cooke is accessible to linguistic students. As the field-work of ornithologists not infrequently brings them into contact with Indian tribes, they can, with the expenditure of comparatively little time and trouble, do a real service to ethnology, and at the same time furnish matter by no means unimportant to ornithology. Having in hand, as the ornithological collector frequently does, the skins of the birds for which names are desired, the names can be obtained and verified with absolute accuracy. Some of the myths, of which Mr. Cooke gives an example, are exceedingly interesting, and when related at length with the particularity characteristic of Indian folk-lore, afford very valuable hints of Indian customs and Indian philosophy. In connection with such myths it is of course desirable to know the names of the animals to which they relate, and I have frequently been called upon to identify the birds and animals figuring in such myths, collected with great care and labor, when all that could be given by the ethnological collector in the way of description were a few phrases almost or quite meaningless. Bird myths naturally mean more to the ornithologist than to any one else, and they can be collected by him with an accuracy attainable by no one else.

Mr. Cooke remarks that "These Indians [Chippewas] claim to have a name for each and every kind of bird inhabiting this country; as a fact they have no specific name for fully one-half of those which yearly nest before their eyes, or pass by in migration." That Indians should know little of the birds, especially of the smaller kinds, that visit this country only as migrants, is not perhaps surprising, but that any considerable number of birds inhabiting their country, even of the smaller and inconspicuous kinds, should not be known to Indians and be named by them *is* surprising. If it can be substantiated in the case of the Chippewa tribe, I should be inclined to attribute their present ignorance to a departure from true aboriginal knowledge and habits. As among whites, knowledge is unequally distributed, so is it among Indians. Some are much more learned than others in the nature and ways of animals; but among any considerable number of Indians some one can almost invariably be found equal to the task of naming any animal or bird living in his country. Such knowledge is much more universal among Indians than it is among the whites. Almost every bird or animal is distinguished from associated species by the possession of some peculiar work or distinctive

quality, and not only are these noted by the Indians, but their mythology furnishes them with the exact when and wherefore the particular mark, color, or quality was received. From the white head of the Bald Eagle to the ruby on the head of the Ruby-crowned Wren, or on the throat of the Hummingbird, every characteristic marking is accounted for. It is in the recital of these and kindred tales that the long winter evenings are whiled away, and though one may receive different versions of the same story as told by different persons, they substantially agree.

The etymologies of these animal names are also of peculiar interest, since they well illustrate the primitive methods of word-making.

Indian classification of animals and natural objects is very little understood; and if any ornithologist can work out, for instance, the classes into which the birds known to a certain tribe are thrown, and ascertain the basis for such Indian classification, he will have made an important contribution to our knowledge of the workings of the primitive mind.

Other points of interest in this connection might be mentioned: but enough perhaps has been said to direct the attention of ornithologists to the interest and importance of this kind of work.

Very truly yours,

Washington, D. C.,
August 24, 1884.

H. W. Henshaw.

A New Element in Diagnosis.

To the Editors of The Auk:—

Sirs: I think it would be advisable for naturalists to give careful attention to the weight of the objects which they study. The descriptive ornithologist delineates the bird in regard to size, the length of body, expanse, wing, tail, tarsus, bill, foot, etc.; respecting the color, he is careful to describe minutely different shades, tints, and stripes, but generally nothing is said of the *weight*.

Of the eggs, the measurements of length and breadth are given, to hundredths of an inch; the color, whether immaculate or spotted, lined or splashed, wreathed or scrawled, the markings regularly or irregularly distributed; the ground-color and markings described to delicate tints and shades—though usually, but not always, the maculates are uniform in substance-color, the differences being due to the deposition of coloring matter at successive stages of shell-formation—*but nothing in regard to the weight of the eggs.*

In birds of the size of the Robin (*Turdus migratorius*), it might not be advisable to express the weight in terms lower than drams, perhaps; in the smaller species the weight should be given in grains, and the larger in ounces and pounds, or their equivalents in the metric system. The weight of the eggs should be expressed in grains, drams and ounces, according to their respective bulk.

This matter would require some skill and expense, and not every

ornithologist is so situated as to attend to the subject, but some could doubtless perform the work with little trouble, and the weight would add much to the stock of knowledge.

Weigh the fresh bird in the flesh when received, making due allowance for the shot in the body; weigh the eggs when they are measured, noting the fact of their freshness or embryonic condition, and weigh the nest when it is ready for the show-case.

The remarks on the subject of *weight* will apply equally to the students of some other branches of natural history; to the mammalogist, the herpetologist, the ichthyologist, and to the entomologist, in a part of their work at least.

Very respectfully,

Somerset, Mass. ELISHA SLADE.

[The weight of birds would certainly form an item of interest, and the variation in this respect presented by a series of specimens of the same species, taken at the same season, and also at different periods, would add really desirable information; but doubtless the variation, owing to the condition of the specimen as regards fatness or leanness, would be so great that weight would be found to have little diagnostic value.—EDS.]

NOTES AND NEWS.

AMONG the exhibits of the National Museum at the New Orleans Exhibition will be a selected collection of mounted birds, with a series of North American game birds, another of birds beneficial to agriculture, and a third consisting of those known to be injurious, as the leading features. In addition, there will be exhibited groups of the most characteristic birds from each of the great zoögeographical divisions of the earth, as Birds of Paradise, Pittas, and Lories, from New Guinea, Apteryx from New Zealand, Toucans, Macaws, Tanagers and Cotingas from South America, Pheasants from India, Plantain-eaters from Africa, etc., etc. The collection is now being prepared under Mr. Ridgway's direction and will be aranged for exhibition by Dr. Stejneger.

THE bird-collection of the National Museum has increased from 93,091 at the end of 1883 to 100,126 up to Oct. 7, 1884, 7035 specimens having thus been added since January 1. It may be of interest to the readers of 'The Auk' to know that the enumeration of the bird record was begun with 3696 specimens forming Professor Baird's private collection, his catalogue, written in his own hand, forming Volume I of the Museum Register of birds, which now comprises 18 volumes, containing a full record of the immense collection built upon Professor Baird's donation.

Professor Baird's cabinet, now merged with the general collection, consisted chiefly of specimens collected, prepared and labelled by himself and his brother Wm. M. Baird, and its value is further enchanced by many of Audubon's types, presented to Professor Baird by Mr. Audubon. All American ornithologists will rejoice that Professor Baird has lived to see so magnificent a collection grow from the comparatively small nucleus which he formed, and with which must be connected in his memory many pleasant associations; and they all hope that he may live to witness the steady development of what is now the best collection extant of North American and West Indian birds into one without a rival in any feature. As being, more than any other living person, entitled to the privilege, specimens numbered 100,000 and 100,001 are entered as donations from Professor Baird, to whom they were presented by Mr. Geo. N. Lawrence, the oldest active American ornithologist. One of them, a Common Crossbill, was shot by Mr. Lawrence in New York City in 1850, and the other, a Flicker, on Long Island, in 1862.

At the meeting of the Ridgway Ornithological Club of Chicago, held July 10, the following papers were read: 'Migration of Birds through Brown Co., Wisc., Spring of 1884,' by S. W. Willard, giving notes on 71 species; 'Oölogical Phenomena,' by B. T. Gault, noting variations in the coloration of eggs of Swainson's Buzzard and other species: 'A day's observations on the Birds of Start Co., Ind.', by G. F. Morcom and H. K. Coale—notes on 77 species; 'Note on the Bronzed Grackle,' by H. L. Fulton. Dr. Velie exhibited a black Red-tailed Hawk, shot at Jacksonville, Ill., Dec., 1883.

Mr. H. Nehrling of Pierce City, Mo., has begun the publication of a series of articles on the birds of Texas, in 'Der Zoologische Garten,' entitled 'Texas und seine Ornis.' The articles will be reissued later in book form, making a volume of about 350 pages. Mr. Nehrling is already well known as a popular writer on American birds, in both the German and English languages.

In selecting English names for our North American birds two cases have come before the A. O. U. Committee on Nomenclature and Classifications, on which they desire an expression of opinion from the readers of 'The Auk.' These cases relate to the names Vireo and Greenlet, and Junco and Snowbird. Responses indicating the writer's preference in respect to these alternative names, may be sent to the editor of 'The Auk,' and the name in each case having the greatest number of supporters will be adopted for the species of birds to which these names are commonly applied. Replies, to be available, must be received not later than Dec. 15, 1884, and the result of the ballot will be announced in the next (January) issue of 'The Auk.'

INDEX TO VOLUME I.

ERRATA.

Page 31, line 16, transpose the words *Extent* and *Length*.
" 32, " 14, for 1881 read 1882.
" 81, " 38, for Smidt read Smit.
" 96, last word, for *grævia* read *nævia*.
" 105, line 35, dele the words 'publication of the.'
" 106, " 3, for of read on.
" 185, " 6, add —C. H. M.
" 208, " 4, for Pickering read Picking.
" 223, " 33, for collection read Museum.
" " " 34, for Museum read collection.
" 260, " 40, for 8 read 7.
" 261, " 20, for 9 read 8.
" 290, " 25, for mein read mien.
" 303, " 36, for naturalist read naturalists.
" 308, " 28, for Blackiston read Blakiston.
" " " 46, for 1877 read 1887.
" 406, " 9, (first column) for Astrigalinus read Astragalinus.